



सत्यमेव जयते

Ministry of Ayush  
Government of India

STANDARD TREATMENT GUIDELINES  
ON  
**MANAGEMENT OF  
DERMATOLOGICAL DISORDERS**  
IN  
HOMOEOPATHY SYSTEM OF MEDICINE

**AYUSH VERTICAL**  
**DIRECTORATE GENERAL OF HEALTH SERVICES**

Ministry of Health & Family Welfare  
Government of India

STANDARD TREATMENT GUIDELINES  
ON  
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Ministry of Health and Family Welfare  
Government of India

प्रतापराव जाधव  
PRATAPRAO JADHAV



### Message

India's rich heritage of traditional healthcare systems has long provided holistic, time-tested solutions for the prevention, management, and promotion of health. In recent years, there has been growing recognition of the significant role that Ayush systems can play in addressing the increasing burden of skin diseases through patient-centric, and integrative healthcare approaches.

The release of the Standard Treatment Guidelines (STGs) for Dermatological Disorders in the respective Ayurveda, Siddha, Unani, and Homeopathy (ASUH) systems, with the inclusion of Yoga, marks another important milestone in our collective efforts to strengthen the integration of Ayush systems into the national healthcare framework. Building upon the success of the previously released STGs, these guidelines reaffirm our commitment to harmonizing the wisdom of traditional medicine with contemporary scientific evidence, thereby enhancing the quality, safety, and accessibility of healthcare services.

These guidelines provide evidence-based recommendations for the prevention, diagnosis, and management of common dermatological disorders, including Psoriasis, Dermatitis, Vitiligo, Urticaria, and Dermatophytosis. By offering standardized and system-specific clinical guidance, they will support healthcare practitioners in delivering safe, effective, and holistic patient care while promoting rational and evidence-informed clinical practice.

I am confident that these STGs will contribute significantly to improving clinical outcomes, encouraging integrative models of healthcare, and strengthening the role of Ayush systems in Public health sector. They will also serve as valuable reference documents for clinicians, academicians, researchers, and policymakers, fostering greater uniformity and excellence in patient care across the country.

I wholeheartedly appreciate the dedicated efforts of Ayush Vertical under DGHS as well as all the experts, institutions, researchers, and stakeholders whose invaluable contributions have made the development of these comprehensive guidelines possible. I am confident that this initiative will further strengthen the vision of accessible, affordable, and quality healthcare for all through the Ayush systems of medicine.



(Prataprao Jadhav)

14<sup>th</sup> August 2026  
New Delhi

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सत्यमेव जयते



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आयुष मंत्रालय  
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### Foreword

Dermatological health is an integral part of overall well-being, as skin disorders can have significant physical, psychological and social impacts. The increasing burden of chronic and recurrent dermatological conditions highlights the need for comprehensive and patient-centred approaches that extend beyond symptom management to encompass prevention, long-term care, and improved quality of life. In this context, the Ayush systems offer a distinctive and comprehensive perspective on health, emphasizing the role of appropriate lifestyle practices, dietary measures, and individualized care. The integration of validated Ayush interventions with contemporary healthcare approaches can contribute towards strengthening accessible, inclusive, and holistic dermatological care.

I am pleased to note that the Ayush Vertical under the Directorate General of Health Services (DGHS), Ministry of Health & Family Welfare, in close collaboration with the Central Research Councils under the Ministry of Ayush and eminent experts from the respective systems, has developed these *Standard Treatment Guidelines (STGs) for Dermatological Disorders including psoriasis, dermatitis, vitiligo, urticaria, and dermatophytosis*. The guidelines are the outcome of a rigorous and systematic process involving extensive expert consultations, critical appraisal of classical texts, evaluation of contemporary scientific evidence, and consensus-based deliberations.

These guidelines provide practical recommendations for the prevention, diagnosis, treatment, follow-up and rehabilitation of common dermatological disorders while preserving the fundamental principles of each Ayush system. They are expected to promote greater uniformity in clinical practice, facilitate rational decision-making, and encourage appropriate integrative healthcare in public health sector. These STGs will also serve as a valuable reference for education, capacity building, research, and the generation of high-quality clinical evidence, thereby further strengthening the scientific foundation of Ayush healthcare.

The Government of India remains committed to evidence-based integration, quality assurance and standardisation across the Ayush sector. These guidelines are an important step towards strengthening Ayush's contribution to accessible, affordable and people-centric healthcare.

I congratulate the Ayush Vertical under DGHS and appreciate the contributions of the Central Research Councils, experts, clinicians, academicians, researchers and other stakeholders. I am confident that these guidelines will serve as a valuable resource for healthcare professionals and further strengthen the quality, credibility and global acceptance of Ayush systems of medicine.

(Rajesh Kotecha)

Date: 25<sup>th</sup> August. 2026



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स्वास्थ्य सेवा महानिदेशालय  
Government of India  
Ministry of Health & Family Welfare  
Directorate General of Health Services



### Message

The growing global emphasis on holistic, preventive, and patient-centred healthcare has renewed interest in traditional systems of medicine and their potential contribution to contemporary health challenges. In India, the Ayush systems of medicine have long served as an integral component of healthcare delivery, offering comprehensive approaches to health promotion, disease prevention, and management through their time-tested principles and evidence-informed practices. As healthcare increasingly embraces integrative models of care, the role of Ayush in addressing both communicable and non-communicable diseases assumes even greater significance.

Dermatological disorders constitute a significant public health challenge, affecting individuals across all age groups and contributing substantially to morbidity, psychological distress, social stigma, and reduced quality of life. A wide spectrum of skin conditions such as dermatitis, dermatophytosis, psoriasis, urticaria, and vitiligo are frequently encountered in clinical practice and require safe, effective, and patient-centered management strategies. The Ayush systems of medicine offer holistic and individualized approaches to the management of dermatological disorders by addressing the underlying constitutional imbalances, promoting healthy dietary and lifestyle practices, and utilizing evidence-informed therapeutic interventions.

The Standard Treatment Guidelines (STGs) on Dermatological Disorders in Ayush Systems of Medicine have been developed under the aegis of the Ayush Vertical, Directorate General of Health Services. These guidelines represent a significant step towards promoting quality assurance, uniformity in clinical practice, and evidence-based healthcare delivery across the Ayush streams. Formulated through a rigorous consultative process involving experts from Ayurveda, Siddha, Unani, and Homoeopathy, along with specialists from modern medicine, the guidelines provide practical and clinically relevant recommendations for the management of common dermatological conditions.

I commend the Ayush Ministry, for bringing out this important document and express my sincere appreciation to the experts from the Research Councils and National Institutes under the Ministry of Ayush for their valuable contributions. I also acknowledge the support extended by the dermatology departments of Dr. Ram Manohar Lohia Hospital and Lady Hardinge Medical College.

By fostering greater collaboration among different systems of medicine and encouraging a multidisciplinary approach to healthcare, these guidelines exemplify our collective commitment to improving patient outcomes and strengthening integrative healthcare delivery in the country. I am confident that these Standard Treatment Guidelines will serve as a valuable reference for Ayush practitioners.

  
(Loveneesh G Krishna)



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**Government of India**

## FOREWORD

The standardization of clinical practice is fundamental to ensuring quality, safety, and consistency across healthcare delivery systems. Recognizing this imperative, the Ayush Vertical, under the leadership and guidance of the Directorate General of Health Services (DGHS), initiated the systematic development of Standard Treatment Guidelines (STGs) for common clinical conditions across traditional systems of medicine. Building upon the successful publication of our earlier volumes on Musculoskeletal and Metabolic Disorders, I am pleased to present the third set in the series: **Standard Treatment Guidelines for Dermatological Disorders**.

This volume addresses five commonly encountered clinical entities—Psoriasis, Dermatitis, Vitiligo, Urticaria, and Dermatophytosis. These guidelines are designed to assist Ayush practitioners in delivering standardized, evidence-informed, and safe clinical care while preserving the foundational diagnostic and therapeutic principles of Ayurveda, Siddha, Unani, and Homeopathy. Beyond routine clinical application, this document aims to foster consistency in practice, enhance quality assurance, support capacity building, and provide a framework for future epidemiological and clinical research.

The preparation of these guidelines underscores the steadfast commitment of the Ayush Vertical to institutionalizing quality assurance within public health services. Developed through an extensive collaborative mechanism, this document brings together technical expertise from the Ayush Research Councils, senior academic specialists across all four traditional streams, and distinguished experts from modern medical specialties. This interdisciplinary approach ensures that the protocols remain deeply rooted in classical wisdom, scientifically robust, and aligned with modern public health standards.

A defining strength of this publication is its rigorous, field-level validation. To ensure operational feasibility in real-world clinical environments, the Ayush Vertical, in active collaboration with the Directorate of Ayush, Government of NCT of Delhi, conducted comprehensive field testing of the draft protocols. Medical Officers engaged in primary and secondary healthcare delivery tested the guidelines in their daily practice, providing critical operational feedback. Inclusion of their observations in the final publication has significantly enhanced its clinical relevance and practical utility.

I place on record my sincere gratitude to the members of the National Expert Committee, the Editorial Board, subject experts from the Ayush Research Councils, modern medicine specialists, the Directorate of Ayush (NCT of Delhi), and all participating Medical Officers. Their technical rigor, dedication, and spirit of collaboration have been crucial in bringing this project to fruition.

I am confident that the *Standard Treatment Guidelines for Dermatological Disorders* will serve as an authoritative reference for clinicians, academic faculties, researchers, and public health administrators. It is our earnest hope that this effort will further strengthen the delivery of accessible, safe, and quality-driven Ayush healthcare services to the nation.

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## ABBREVIATIONS

|         |                                             |
|---------|---------------------------------------------|
| AD      | Atopic Dermatitis                           |
| ADSI    | Atopic Dermatitis Severity Index            |
| ANA     | Antinuclear Antibody                        |
| ACE     | Angiotensin-Converting Enzyme               |
| AIDS    | Acquired Immunodeficiency Syndrome          |
| ASST    | Autologous Serum Skin Test                  |
| BMI     | Body Mass Index                             |
| BSA     | Body Surface Area                           |
| CBC     | Complete Blood Count                        |
| CDLQI   | Children Dermatology Life Quality Index     |
| CCRH    | Central Council for Research in Homoeopathy |
| CT scan | Computed Tomography Scan                    |
| CHC     | Community Health Centre                     |
| CRP     | C-Reactive Protein                          |
| CSU     | Chronic Spontaneous Urticaria               |
| CIndU   | Chronic Inducible Urticaria                 |
| CVD     | Cardiovascular Disease                      |
| DALYs   | Disability-Adjusted Life Year               |
| DLQI    | Dermatology Life quality Index              |
| DSQL    | The Dermatology-specific Quality of Life    |
| DOPA    | Levodopa                                    |
| DVT     | Deep Vein thrombosis                        |
| EASI    | Eczema Area and Severity Index              |
| ECHO    | Echocardiography                            |
| ECG     | Electrocardiogram                           |
| ESR     | Erythrocyte Sedimentation Rate              |
| FT3     | Free Tri-iodothyronine                      |
| FT4     | Free Thyroxine                              |
| FBS     | Fasting Blood Sugar                         |
| HBA1C   | Glycosylated Haemoglobin                    |
| HIV     | Human Immunodeficiency Virus                |
| HLA     | Human Leukocyte Antigen                     |
| HSV     | Herpes Simplex Virus                        |
| HAE     | Hereditary Angioedema                       |

|           |                                                               |
|-----------|---------------------------------------------------------------|
| IgE       | Immunoglobulin E                                              |
| ICD       | International Classification of Diseases                      |
| IFN       | Interferon                                                    |
| JAK/STAT  | Janus Kinase/Signal Transducer and Activator of Transcription |
| KFT       | Kidney Function Test                                          |
| KOH       | Potassium Hydroxide                                           |
| LFT       | Liver Function Test                                           |
| MRI       | Magnetic Resonance Imaging                                    |
| NSV       | Non-Segmental Vitiligo                                        |
| NSAIDS    | Non-Steroidal Anti-Inflammatory Drugs                         |
| PASI      | Psoriasis Area Severity Index                                 |
| PCR       | Polymerase Chain Reaction                                     |
| PHC       | Primary Health Centre                                         |
| PPD       | Purified Protein Derivative                                   |
| PPBS      | Postprandial Blood Sugar                                      |
| QOL       | Quality of Life                                               |
| RAST      | Radioallergosorbent Test                                      |
| RA Factor | Rheumatoid Factor                                             |
| RO        | Research Officer                                              |
| SARDs     | Systemic Autoimmune Rheumatic Disorders                       |
| SAPHO     | Synovitis, Acne, Pustulosis, Hyperostosis, Osteitis           |
| SASSAD    | Six Area Six Sign Atopic Dermatitis                           |
| SCORAD    | Scoring Atopic Dermatitis                                     |
| SLE       | Systemic Lupus Erythematosus                                  |
| SV        | Segmental Vitiligo                                            |
| TSH       | Thyroid-Stimulating Hormone                                   |
| USG       | Ultrasonography                                               |
| UV        | Ultraviolet                                                   |
| VASI      | Vitiligo Area Scoring index                                   |
| VES       | Vitiligo Extent Score                                         |
| VETF      | Vitiligo European Task Force                                  |
| VIDA      | Vitiligo Disease Activity Score                               |
| VIS       | Vitiligo Impact Scale                                         |
| WHO       | World Health Organisation                                     |



# 01

## DERMATITIS





# DERMATITIS

(ICD 10 code: L20–L30)  
(ICD 11 Code: EA80–EA87)

## CASE DEFINITION<sup>1,2</sup>

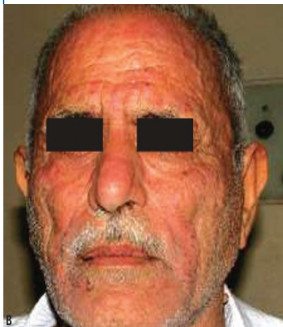
Dermatitis refers to inflammation of the skin resulting in erythema, itching, edema, and vesiculation, often followed by crusting and scaling. It includes a broad spectrum of disorders such as atopic dermatitis, contact dermatitis (irritant/allergic), seborrheic dermatitis, nummular dermatitis and dyshidrotic dermatitis.

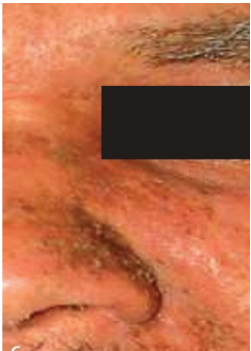
## INTRODUCTION (*Incidence/Prevalence, Morbidity/Mortality/Risk Factors*)<sup>1-11</sup>

- Atopic dermatitis affects up to 20% of children and around 10% of adults globally, with increasing prevalence in industrialized nations.
- Contact dermatitis accounts for nearly 70% of occupational skin diseases worldwide.
- Seborrheic dermatitis is estimated to affect 1–5% of the general population but may exceed 85% in HIV-infected individuals.
- Nummular dermatitis represents approximately 0.2–0.5% of dermatology cases, while dyshidrotic dermatitis constitutes 5–20% of hand eczema cases globally.
- In India, similar prevalence patterns are observed, with a significant burden of atopic and contact dermatitis, particularly among industrial workers and urban populations.
- Morbidity includes chronic pruritus, secondary infections, sleep disturbances, and psychological impact, although mortality is exceedingly rare.
- Key risk factors across these types of dermatitis include genetic predisposition, atopic background, impaired epidermal barrier, exposure to irritants or allergens, microbial dysbiosis, emotional stress, and environmental factors.
- A dermatitis may be entirely endogenous (constitutional) or be entirely exogenous (contact). The latter consists of irritant and allergic contact reactions. Commonly, dermatitis has a multifactorial aetiology and may be aggravated by the presence of pathogens (staphylococcus aureus). Assessment of the relative importance (contribution) of the possible factors may be difficult and subjective.

## CLINICAL PRESENTATION<sup>1-7</sup>

| Type of Dermatitis       | Clinical Features                                                                                                                                                                     | Investigations                                                                                                                                  | Appearance                                                                                                  |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Atopic Dermatitis</b> | <ul style="list-style-type: none"><li>• Chronic, relapsing pruritic eczematous lesions, often involving flexural areas (elbows, knees, neck), with lichenification, xerosis</li></ul> | <ul style="list-style-type: none"><li>• Serum IgE level (often elevated)</li><li>• Absolute eosinophil count</li><li>• Skin swab test</li></ul> | <br>Fig1 <sup>12</sup> |

| Type of Dermatitis                 | Clinical Features                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Investigations                                                                                                                                                                                                                                    | Appearance                                                                                                      |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                    | <ul style="list-style-type: none"> <li>• Intense itching, red, scaly or oozing, crusting, cracked and thickened skin lesions, sometimes bleeding on scratching</li> <li>• Commonly affects children below the age of five years</li> <li>• Dennie-Morgan folds under eyes (Dennie-Morgan folds, also known as Dennie-Morgan lines or infraorbital folds, are horizontal creases or folds that appear under the eyes). White dermatographism is a skin response in which gentle pressure from a blunt object—such as a fingernail or tongue depressor—produces a pale or whitish streak on the skin, rather than the typical red mark seen in normal reactions.;</li> <li>• Personal/family history of asthma, allergic rhinitis common.</li> </ul> | <ul style="list-style-type: none"> <li>• Patch test if contact allergy suspected</li> <li>• Skin biopsy in atypical cases</li> </ul>                                                                                                              |                                                                                                                 |
| <b>Irritant Contact Dermatitis</b> | <ul style="list-style-type: none"> <li>• Localized erythema, scaling, rough, inflamed skin often with burning, fissuring at site of repeated chemical or physical insult (soaps, detergents, occupational irritants);</li> <li>• Often painful more than itchy, without spreading beyond contact area.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Mainly clinical diagnosis</li> <li>• Skin swab test for secondary infection</li> <li>• Patch test (negative, helps exclude allergic dermatitis)</li> <li>• Skin biopsy if diagnosis uncertain</li> </ul> |  <p>Fig 2<sup>12</sup></p> |
| <b>Allergic Contact Dermatitis</b> | <ul style="list-style-type: none"> <li>• Erythema, vesicles, intense pruritus, often spreading beyond direct contact zone due to delayed type IV hypersensitivity;</li> <li>• Chronic cases show lichenification.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Patch Test</li> <li>• Skin swab test</li> <li>• Skin biopsy</li> </ul>                                                                                                                                   |  <p>Fig 3<sup>12</sup></p> |

| Type of Dermatitis           | Clinical Features                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Investigations                                                                                                                                                                                         | Appearance                                                                                                      |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Parthenium Dermatitis</b> | <ul style="list-style-type: none"> <li>Parthenium dermatitis is a widespread and distressing dermatoses in rural and urban India caused by the air borne allergen of the Compositae weed Parthenium hysterophorus. Parthenium dermatitis has been thought to be mediated solely by type IV hypersensitivity, but recently a combined immediate (type I) and delayed (type IV) hypersensitivity mechanism has been postulated in the initiation and perpetuation of parthenium dermatitis, especially in sensitized subjects with an atopic diathesis.</li> </ul> | <ul style="list-style-type: none"> <li>Patch test with parthenium antigen</li> <li>Skin swab test in cases of secondary infection</li> <li>Serum Ig levels</li> <li>Skin biopsy if required</li> </ul> |  <p>Fig 4<sup>38</sup></p>   |
| <b>Seborrheic Dermatitis</b> | <ul style="list-style-type: none"> <li>Erythematous plaques with greasy, white or yellowish scales or crust on scalp (dandruff), eyebrows, beard, retro-auricular area, sternum;</li> <li>May cause mild pruritus.</li> <li>Exacerbates in cold weather, stress, common in Parkinsonism and HIV patients.</li> </ul>                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Usually clinical diagnosis</li> <li>KOH examination</li> <li>Skin swab test</li> <li>Skin biopsy if atypical</li> </ul>                                         |  <p>Fig 5<sup>12</sup></p> |
| <b>Nummular Dermatitis</b>   | <ul style="list-style-type: none"> <li>Well-demarcated, round to oval "coin-shaped" eczematous plaques, often exudative or crusted, primarily on legs and arms;</li> <li>Intense pruritus;</li> <li>Commonly in middle-aged to elderly men;</li> <li>Winter aggravation.</li> </ul>                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>KOH examination</li> <li>Skin swab test</li> <li>Patch test</li> <li>Skin biopsy</li> </ul>                                                                     |  <p>Fig 6<sup>13</sup></p> |

| Type of Dermatitis                                | Clinical Features                                                                                                                                                                                                                                                                                                                                      | Investigations                                                                                                                                                                                | Appearance                                                                                                      |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Stasis Dermatitis</b>                          | <ul style="list-style-type: none"> <li>Develops in the lower legs due to poor circulation from conditions like varicose veins leading to skin discolouration, thickening &amp; leg swelling.</li> <li>Reddish, brownish or grayish skin discolouration with itching, oozing, crusting or thickening.</li> <li>Signs of chronic leg swelling</li> </ul> | <ul style="list-style-type: none"> <li>Venous Doppler ultrasound of lower limb (to assess venous insufficiency)</li> <li>Skin swab test if ulcer or infection</li> <li>Skin biopsy</li> </ul> |  <p>Fig 7<sup>36</sup></p>   |
| <b>Neurodermatitis (Lichen Simplex Chronicus)</b> | <ul style="list-style-type: none"> <li>Localized, itchy skin condition characterized by thickened, leathery, and scaly skin caused by a habitual itch-and-scratch cycle.</li> </ul>                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Clinical diagnosis</li> <li>Skin swab test</li> <li>Patch test</li> <li>Skin biopsy</li> </ul>                                                         |  <p>Fig 8<sup>37</sup></p>   |
| <b>Dyshidrotic Dermatitis (Pompholyx)</b>         | <ul style="list-style-type: none"> <li>Sudden onset of deep-seated tapioca-like vesicles on lateral aspects of fingers, palms, sometimes soles;</li> <li>Associated with burning, itching; may fissure;</li> <li>Often triggered by stress or hot weather, frequent recurrences.</li> <li>Also known as 'Pompholyx'.</li> </ul>                        | <ul style="list-style-type: none"> <li>KOH examination to rule out fungal infection</li> <li>Skin swab test</li> <li>Patch test</li> <li>Skin biopsy</li> </ul>                               |  <p>Fig 9<sup>12</sup></p> |

## CLINICAL EXAMINATION<sup>10, 14</sup>

A detailed patient's history should be taken and focus on the following:

- Onset and distribution of lesions
- Inspection to identify skin rashes, redness, dryness, scaling, crusting, discolouration, thickening and other signs of irritation.
- The severity of pruritus (e.g., keeping patient awake at night)
- Family and/or personal history of the atopic triad (Atopic triad refers to the genetic predisposition to develop allergic conditions such as atopic dermatitis, allergic asthma, allergic rhinitis and other allergies like conjunctivitis)
- Presence of contact allergens

- The presence of triggers including allergens (e.g., dust mites, animal dander), hot showers/sweating, soaps, fragrances, food hypersensitivities, and synthetic fabrics such as polyester.

Classic physical examination findings depend on the age group.

- Infants develop oedematous papules and plaques that may have vesicles or crust on the scalp, face, and extensor extremities.
- Infants rarely have atopic dermatitis lesions affecting the diaper area but may be susceptible to other causes of diaper dermatitis such as candida or seborrheic dermatitis.
- Atopic dermatitis children classically have fewer exudative patches and plaques on antecubital and popliteal fossae; adults have chronic lichenified (enhanced skin markings) lesions that have a predilection for hands.
- Individual lesions may also be further classified into acute (oedematous, erythematous papules and plaques and/or vesicles/crusting), subacute (erythema, scale, variable crusting), or chronic (thick plaques with lichenification and scale) stages.

## DIFFERENTIAL DIAGNOSIS<sup>3,4</sup>

The following diseases must be considered in differential diagnosis of Dermatitis:

| Condition             | Differential Features                                                                                                                                                                                                                                                                                    | Investigations                                                                                                                                      |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Psoriasis</b>      | <ul style="list-style-type: none"> <li>• Chronic plaques with sharply demarcated edge</li> <li>• Thick silvery scales typically on extensor elbows, knees, scalp;</li> <li>• Auspitz sign (pinpoint bleeding when scale removed) positive, nail pitting, possible arthritis;</li> </ul>                  | <ul style="list-style-type: none"> <li>• Skin biopsy showing acanthosis, parakeratosis,</li> <li>• Munro micro abscesses.</li> </ul>                |
| <b>Scabies</b>        | <ul style="list-style-type: none"> <li>• Intense nocturnal pruritus with small erythematous papules, vesicles, burrows (thin wavy lines), often on finger webs, wrists, waist, genitalia;</li> <li>• Excoriations, secondary impetiginization;</li> <li>• Family members frequently affected.</li> </ul> | <ul style="list-style-type: none"> <li>• Skin scraping with KOH or mineral oil showing mites, eggs, or faeces.</li> </ul>                           |
| <b>Tinea corporis</b> | <ul style="list-style-type: none"> <li>• Annular erythematous plaques with raised scaly advancing margins and central clearing, possible vesicles at periphery;</li> <li>• Worse in humid weather</li> <li>• Usually asymmetrical;</li> <li>• History of pets or communal sports.</li> </ul>             | <ul style="list-style-type: none"> <li>• KOH mount positive for septate branching hyphae.</li> </ul>                                                |
| <b>Drug eruptions</b> | <ul style="list-style-type: none"> <li>• Rapid onset of widespread symmetric erythematous macules, papules, commonly starting on trunk, with recent drug exposure;</li> <li>• May involve mucosa if severe.</li> </ul>                                                                                   | <ul style="list-style-type: none"> <li>• Clinical history;</li> <li>• skin biopsy shows superficial perivascular lymphocytic infiltrate.</li> </ul> |

| Condition                                                                      | Differential Features                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Investigations                                                                                                                                                                                                |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lichen planus</b>                                                           | <ul style="list-style-type: none"> <li>• Pruritic, purple, polygonal, planar papules with Wickham striae (white lacy lines),</li> <li>• Commonly on flexor wrists, lumbar area, ankles;</li> <li>• Oral lesions appear as reticulate white patches;</li> <li>• May have nail thinning or longitudinal ridging.</li> </ul>                                                                                                                                             | <ul style="list-style-type: none"> <li>• Biopsy reveals saw toothed hypergranulosis, basal cell vacuolisation, with band like lymphocytic infiltrate at the epidermal junction and civatte bodies.</li> </ul> |
| <b>Insect Bite/<br/>Insect bite hypersensitivity/<br/>Bed bug infestations</b> | <ul style="list-style-type: none"> <li>• Common in children, chronic hypersensitivity to bites</li> <li>• Localized reactions: <ul style="list-style-type: none"> <li>• Itchy, erythematous papules or wheals</li> <li>• Central punctum may be present</li> <li>• May progress to vesicles or bullae</li> </ul> </li> <li>• Itchy erythematous papules, often in lines or clusters</li> <li>• May have central punctum or sometimes contain a clear fluid</li> </ul> | --                                                                                                                                                                                                            |
| <b>Dermatophytid reaction</b>                                                  | <ul style="list-style-type: none"> <li>• Symmetric itchy papules or vesicles on hands or feet secondary to fungal infection elsewhere on body (e.g., tinea pedis);</li> <li>• Often bilateral or symmetrical;</li> <li>• lesions themselves are KOH negative,</li> <li>• improve after primary fungal infection is treated.</li> </ul>                                                                                                                                | <ul style="list-style-type: none"> <li>• KOH negative at eruption site,</li> <li>• Positive at primary infection site.</li> </ul>                                                                             |
| <b>Asteatotic eczema</b>                                                       | <ul style="list-style-type: none"> <li>• Very dry, cracked, fissured skin especially on lower legs in elderly during winter;</li> <li>• fine scaling without well-defined plaques, minimal erythema, mild itching.</li> </ul>                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Clinical diagnosis based on morphology and seasonality.</li> </ul>                                                                                                   |
| <b>Pityriasis rosea</b>                                                        | <ul style="list-style-type: none"> <li>• Begins with single large herald patch on trunk followed by multiple smaller oval salmon-coloured lesions along cleavage lines (Christmas tree pattern);</li> <li>• mild itching, self-limiting.</li> </ul>                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Clinical diagnosis; biopsy rarely performed.</li> </ul>                                                                                                              |
| <b>Impetigo</b>                                                                | <ul style="list-style-type: none"> <li>• Honey-yellow crusted erosions often around mouth and nose in children, sometimes with bullae (bullous impetigo);</li> <li>• spreads by scratching.</li> </ul>                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Bacterial culture positive for Staphylococcus aureus or Streptococcus pyogenes.</li> </ul>                                                                           |
| <b>Eczema herpeticum</b>                                                       | <ul style="list-style-type: none"> <li>• Clusters of uniform punched-out erosions on eczematous skin, often painful, associated with fever, lymphadenopathy;</li> <li>• may progress rapidly.</li> </ul>                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Tzanck smear showing multinucleated giant cells or HSV PCR positive.</li> </ul>                                                                                      |

## SUPPORTIVE INVESTIGATIONS <sup>1,5,6,7,12,15,16,17</sup>

| Test                                                 | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Essential</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Detailed history and Physical examination            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Complete haemogram<br>(If systemic symptoms persist) | <ul style="list-style-type: none"> <li>Complete haemogram may show eosinophilia or other abnormalities of white blood cells. to exclude immune deficiencies, and IgE levels can be helpful to confirm an atopic pattern.</li> <li>Immunoglobulin profile may be helpful to evaluate immunodeficiency or show raised IgE levels.</li> </ul>                                                                                                                                                                                                                                             |
| C-Reactive Protein                                   | <ul style="list-style-type: none"> <li>Inflammation is also characterized by an increased blood concentration of inflammatory markers, of which CRP is the most commonly used in clinical studies, being a strong marker of non-specific inflammation. C - reactive protein levels are influenced by many factors like age, BMI and smoking.</li> </ul>                                                                                                                                                                                                                                |
| Skin scraping with KOH                               | <ul style="list-style-type: none"> <li>This is a direct microscopic examination of the skin specimen to detect fungal spores or hyphae.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Skin swab test                                       | <ul style="list-style-type: none"> <li>To identify bacterial or viral infections that may superinfect the skin</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Advanced</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Patch Test                                           | <ul style="list-style-type: none"> <li>Patch tests are very useful in finding the cause of allergic but not irritant dermatitis, i.e., they detect allergens responsible for type IV allergy.</li> <li>Depending on the degree of inflammation, the reaction is graded from 0 to 3+</li> </ul>                                                                                                                                                                                                                                                                                         |
| Serum IgE Levels                                     | <ul style="list-style-type: none"> <li>Total serum IgE levels and IgE antibodies specific to certain antigens (measured using radioallergosorbent test or RAST) may be useful in diagnosis in atopic states.</li> <li>More than 80% of patients with AD have elevated IgE levels of &gt;200 IU/ml.</li> <li>RAST may sometimes help to identify specific (dietary and environmental) allergens which may be perpetuating dermatitis in an atopic patient.</li> <li>May help in advising patients on role of dietary and environmental allergens in perpetuating dermatitis.</li> </ul> |
| Skin Biopsy                                          | <ul style="list-style-type: none"> <li>Skin biopsy is an important and not commonly performed diagnostic procedure that may assist in making or confirming a diagnosis. The intent is to characterize the nature of skin growth or eruption and assist in the histopathologic evaluation of a tissue sample.</li> </ul>                                                                                                                                                                                                                                                                |
| Doppler Ultrasound                                   | <ul style="list-style-type: none"> <li>To differentiate dermatitis from other vascular or infectious conditions or to evaluate for cellulitis, venous insufficiency, or vasculitis, which may mimic or coexist with dermatitis</li> <li>Doppler USG is useful to assess venous insufficiency, reflux, or deep vein thrombosis (DVT), which may underlie or worsen Stasis dermatitis.</li> </ul>                                                                                                                                                                                        |

## DIAGNOSTIC CRITERIA<sup>1,2,4,7,18,19,20</sup>

The diagnosis of dermatitis is primarily clinical and made after a complete medical history and physical examination. Dermatitis has varied diagnostic criteria in different types of dermatitis, which are stated below:

| Type of Dermatitis                                             | Diagnostic Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Atopic Dermatitis</b>                                       | <p>Diagnostic criteria proposed by the United Kingdom Working Party: These consist of one mandatory and five major criteria, it is easy to use and do not require any laboratory testing.</p> <table> <tr> <td>Mandatory criterion (must be positive)</td><td>An itchy skin lesion or parental report of scratching or rubbing of skin</td></tr> <tr> <td rowspan="5">Major criteria (at least three of the five should be positive)</td><td>Onset below 2 years of age (not used if the child is less than 4 years of old)</td></tr> <tr> <td>History of skin crease involvement (including cheeks in children under 10 years)</td></tr> <tr> <td>History of generally dry skin</td></tr> <tr> <td>Personal history of other atopic disease (or history of any atopic disease in a first-degree relative of children under 4 years)</td></tr> <tr> <td>Visible flexural dermatitis (or dermatitis of cheeks, forehead, or outer limbs in children below 4 years)</td></tr> </table> | Mandatory criterion (must be positive) | An itchy skin lesion or parental report of scratching or rubbing of skin | Major criteria (at least three of the five should be positive) | Onset below 2 years of age (not used if the child is less than 4 years of old) | History of skin crease involvement (including cheeks in children under 10 years) | History of generally dry skin | Personal history of other atopic disease (or history of any atopic disease in a first-degree relative of children under 4 years) | Visible flexural dermatitis (or dermatitis of cheeks, forehead, or outer limbs in children below 4 years) |
| Mandatory criterion (must be positive)                         | An itchy skin lesion or parental report of scratching or rubbing of skin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
| Major criteria (at least three of the five should be positive) | Onset below 2 years of age (not used if the child is less than 4 years of old)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
|                                                                | History of skin crease involvement (including cheeks in children under 10 years)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
|                                                                | History of generally dry skin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
|                                                                | Personal history of other atopic disease (or history of any atopic disease in a first-degree relative of children under 4 years)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
|                                                                | Visible flexural dermatitis (or dermatitis of cheeks, forehead, or outer limbs in children below 4 years)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
| <b>Irritant Contact Dermatitis</b>                             | <ul style="list-style-type: none"> <li>• Diagnosis by exclusion: history of repeated irritant exposure, lesions confined to contact area, immediate burning more than itching, improves on avoidance;</li> <li>• No positive patch test.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
| <b>Allergic Contact Dermatitis</b>                             | <ul style="list-style-type: none"> <li>• Requires positive patch test (type IV hypersensitivity);</li> <li>• Pruritic eczematous lesions often extending beyond contact site, delayed onset (24–72h after exposure).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
| <b>Seborrheic Dermatitis</b>                                   | <ul style="list-style-type: none"> <li>• Clinical diagnosis: chronic erythematous patches with greasy yellow scales on seborrheic areas (scalp, eyebrows, nasolabial folds, chest);</li> <li>• Recurs with stress or winter.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
| <b>Nummular Dermatitis</b>                                     | <ul style="list-style-type: none"> <li>• Circular or oval pruritic eczematous plaques on extremities, frequently oozing;</li> <li>• Diagnosis supported by negative KOH to rule out tinea.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |
| <b>Dyshidrotic Dermatitis</b>                                  | <ul style="list-style-type: none"> <li>• Characteristic presentation of recurrent deep-seated vesicles on sides of fingers, palms, soles, intensely pruritic, often triggered by stress or seasonal factors.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                                                                          |                                                                |                                                                                |                                                                                  |                               |                                                                                                                                  |                                                                                                           |

## Evaluation and Assessment<sup>21, 22,23</sup>

The most used tools for assessing dermatitis severity in adult patients are presented and compared. It's an inflammatory condition requires accurate severity assessment for effective management. Various assessment tools used for the evaluation of dermatitis are as follows:

| Tool                                           | Comments                                                                                                                                                                                                                                                                                     |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Scoring Atopic Dermatitis (SCORAD)</b>      | Assesses disease extent, severity of 6 clinical signs on a 4-point scale, and patient-reported pruritus and sleep loss, to a maximum score of 103                                                                                                                                            |
| <b>Atopic Dermatitis Severity Index (ADSI)</b> | The sum of 5 items rated on a 4-point scale (0-3): erythema, excoriation, exudation, lichenification, and pruritus                                                                                                                                                                           |
| <b>Six Sign Atopic Dermatitis (SASSAD)</b>     | Six clinical signs are scored from 0 to 3 at each of 6 sites on the body                                                                                                                                                                                                                     |
| <b>Dermatology Life Quality Index (DLQI)</b>   | 10-item questionnaire assessing impact on daily activities and overall quality of life                                                                                                                                                                                                       |
| <b>Eczema Area and Severity Index</b>          | EASI is a widely used tool to assess the severity of atopic dermatitis (eczema). It evaluates two main components: <ol style="list-style-type: none"> <li>1. Area: The percentage of body surface area affected by eczema.</li> <li>2. Severity: The intensity of eczema symptoms</li> </ol> |

## PRINCIPLES OF MANAGEMENT

The principles of management include assessment of signs and symptoms before initiating treatment and the need for management through conventional treatment for associated co morbidities. If the patient is already under standard care, the physician may advise to continue the same along with add-on homoeopathy and can be assessed for the same in the follow ups for tapering or discontinue the treatment in consultation with the conventional physician.

### Red Flag signs:<sup>7</sup>

These signs should be assessed before initiating treatment for need for management/consultation through modern medicine.

- Secondary bacterial or viral infection (pus, fever)
- Generalized erythroderma
- Growth delay in children with Atopic Dermatitis
- Severe psychological distress

### (A) Prevention management<sup>1,2,9, 24</sup>

- All patients should be educated about the symptoms of infection
- Maintain proper hygiene
- Exclusive breastfeeding of infants up to 6 months of age is recommended for prevention of atopic diseases.
- Avoid allergens, synthetic fabric and wool clothing. (in case of atopic dermatitis)
- Moisturize with emollients regularly.
- Wear loose cotton garments.
- Maintain hydration (2–3 L/day).

**Yoga:**<sup>14, 25</sup> Dermatitis is a multifactorial condition influenced by immune dysregulation and psychosocial stress, where stress aggravates inflammation, elevates pro-inflammatory cytokines (e.g., IL-6, TNF- $\alpha$ ), and delays skin healing. From a yogic standpoint, it reflects an

imbalance at both physiological and psychological levels. Yoga offers a holistic, evidence-based approach by reducing stress and modulating neuroendocrine function through practices like *Dhyana* and *Yoga Nidra*, which help lower cortisol levels. *Pranayama* techniques such as *Nadi Shodhana* and *Bhramari* improve autonomic balance and reduce systemic inflammation. Additionally, *Asanas* like *Tadasana*, *Trikonasana*, *Padahastana*, *Ardachakrasana*, *Bhujangasana*, *Setu Bandhasana* enhance circulation and support skin repair. Collectively, yoga exerts anti-inflammatory and immunomodulatory effects, while improving psychological well-being and quality of life.

## (B) Interventions

**At Level 1** - Solo Physician Clinic/Health Clinic/PHC (Optimal Standard of treatment where technology and resources are limited)

### Clinical Diagnosis:

The diagnosis of Dermatitis is primarily based on clinical signs and symptoms; however, the following investigations may be done to assess severity of inflammation or exclude other diagnosis:<sup>1,4,7</sup>

- ✓ Complete Haemogram
- ✓ Skin scraping with KOH
- ✓ Assessment of severity by different assessment tools such as SCORAD, ADSI, SASSAD, DLQI.

### Management<sup>26-30</sup>

Multiple research studies suggest that homoeopathic medicines may be effective in managing cases of dermatitis. Clinical trials and documented case studies have demonstrated positive therapeutic outcomes, including improvements in patients' health-related quality of life. Published evidence from case reports, case series, and research investigations consistently supports the individualized constitutional approach as central to successful homoeopathic treatment.

Treatment is guided solely by the totality of symptoms presented by each patient, emphasizing a personalized strategy. However, a single dose is often insufficient. The repetition of doses, adjustment of potency, or even change of remedy during follow-up is determined by the patient's response, in accordance with Kent's 12 observations and other foundational homoeopathic principles.

Flow-diagram for management is given at annexure I. Some of the commonly prescribed medicines are as follows (indications of medicines is given at annexure II):<sup>31,32,33</sup>

| Sr. No. | Medicines*               | Dose Form*                                                                                                                                                                                 | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                                                                        |
|---------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Antimonium crudum</b> | *Varies as per the need of the case depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | <b>Mother tincture:</b><br>Echinacea angustifolia Q<br><b>Schussler's biochemic remedies</b> (Calcarea sulphurica, Kalium muriaticum, Kalium phosphoricum, Natrum muriaticum, may also be prescribed as per the need of the case. |

| Sr. No. | Medicines*                       | Dose Form* | Dose* | Time* | Duration* | Adjuvants* |
|---------|----------------------------------|------------|-------|-------|-----------|------------|
| 2.      | <b>Arsenicum album</b>           |            |       |       |           |            |
| 3.      | <b>Calcareo carbonica</b>        |            |       |       |           |            |
| 4.      | <b>Graphites</b>                 |            |       |       |           |            |
| 5.      | <b>Hepar sulphuris calcareum</b> |            |       |       |           |            |
| 6.      | <b>Lycopodium clavatum</b>       |            |       |       |           |            |
| 7.      | <b>Natrum muriaticum</b>         |            |       |       |           |            |
| 8.      | <b>Petroleum</b>                 |            |       |       |           |            |
| 9.      | <b>Psorinum</b>                  |            |       |       |           |            |
| 10.     | <b>Rhus toxicodendron</b>        |            |       |       |           |            |
| 11.     | <b>Sepia officinalis</b>         |            |       |       |           |            |
| 12.     | <b>Sulphur</b>                   |            |       |       |           |            |
| 13.     | <b>Thuja occidentalis</b>        |            |       |       |           |            |

### **Dos and don'ts while taking homoeopathic medicine<sup>34</sup>**

Patients taking homoeopathic medicine are advised not to eat, drink, smoke, for at least half an hour before or after taking medication and to avoid emotional stress, strains and excitements. No new habits or addictions should be indulged in while taking the medicine.

### **Recommended Diet and Lifestyle<sup>2,9,14,35</sup>**

- Maintain proper hygiene.
- Ensuring a balanced diet to maintain adequate intake of essential nutrients, which are vital for skin health and overall well-being.
- Incorporating anti-inflammatory foods, such as omega-3-rich fish, fruits, vegetables, and whole grains.
- Intake of foods rich in antioxidants, vitamins and minerals reduce the inflammation associated with dermatitis.
- Use cotton garments.
- Drink 2–3 liters of water/day
- Practice yoga and breathing techniques. Various yoga practices are helpful in the management of dermatitis such as Anulom vilom, Balasan, Shavasana, Sukhasana and meditation which reduces stress.

### **Restricted Diet and Lifestyle<sup>2,8,9,24</sup>**

- Avoid seafood and spicy food.

- Avoid processed and refined food
- Avoid foods that are frequently linked to allergic reactions in specific individuals with Dermatitis.
- Avoid artificial fragrances, topical steroids unless prescribed.
- Refrain from alcohol and smoking.
- Avoid contact with known allergens (nickel, latex, dyes).
- Avoid stress.

**Follow Up** (Every 7 days or earlier as per the need)

**Reviews should include:**<sup>1,2,4,6</sup>

During follow-up of patients with dermatitis, these key areas should be systematically assessed:

- Monitor lesion count, sleep quality, and mental well-being
- **Symptom control:** Intensity and frequency of pruritus, changes in extent or severity of lesions.
- **Lesion morphology:** Any reduction in erythema, scaling, oozing, or lichenification, or appearance of new lesions.
- **Signs of infection:** Presence of crusting, pustules, warmth, or lymphadenopathy suggesting secondary bacterial infection.
- **Impact on quality of life:** Sleep disturbances due to itching, limitations in daily activities, emotional or psychological stress.
- **Adherence to avoidance measures and skin care:** Proper moisturization, avoidance of known triggers or allergens.
- **Need for adjusting treatment:** Whether acute flares need new medicine.

**Referral criteria:**

- Lack of clinical improvement after 4-6 weeks of individualized treatment
- Extensive skin involvement (>30% BSA), especially in children or elderly.
- Severe pruritus leading to sleep disturbance or psychological distress.
- Severe pains with burning or stinging sensation.
- Secondary infection suspected due to oozing, crusting, fever, or lymphadenopathy.
- Diagnostic uncertainty (e.g., differential diagnosis from psoriasis, seborrheic dermatitis, scabies).
- Evidence of an increase in severity/complications.
- Lesions unresponsive to treatment.
- Coexisting systemic diseases (diabetes, hypothyroidism, renal impairment) affecting skin healing.
- Recurrent relapses despite compliance with therapy.
- Suspected allergic aetiology needing patch testing or further evaluation.
- Substantial impact on their quality of life and activities of daily living.

**At Level 2** - CHC/Small hospitals (10-20 bedded hospitals with basic facilities such as routine, investigation, X-ray)

**Clinical Diagnosis:** Same as level 1. The case referred from Level 1, or a fresh case, must be evaluated thoroughly for any complications. Some investigations that may be necessary to investigate complications or exclude other differential diagnoses are as follows:<sup>1,4,7</sup>

- Serum IgE

**Management:** Same as level 1. For the patients referred from Level-1, treatment given in Level-1 may be continued if appropriate for the presenting condition or the case may be reassessed for the totality of symptoms and treatment may be given accordingly. For new cases at this level, the medications mentioned for Level-1 may also be considered, however, the totality of symptoms presented by the patient is the sole indicative and guide for treating each patient.

**Recommended Diet and Lifestyle:** Same as level 1

**Restricted Diet and Lifestyle:** Same as level 1

**Follow Up** (Every 7 days or earlier as per the need)

#### **Referral Criteria**

- Same as mentioned earlier at level 1, plus
- Non-response to treatment after 4–6 weeks of individualized therapy.
- Complicated or severe forms (e.g., eczema herpeticum, generalized erythroderma)
- Requirement for skin biopsy or histopathological confirmation.
- Presence of psychological disturbance (e.g., anxiety, depression due to disfigurement)
- Immunocompromised states (e.g., HIV, chemotherapy) complicating presentation.
- Referral if lesions are widespread, unresponsive, or infected.
- Autoimmune disorders with cutaneous overlap (e.g., SLE, celiac disease).
- Need for multi-disciplinary care (e.g., dermatology, allergology, psychiatry).
- Any other complications that threaten the life of the patient.

**At Level 3** - Ayush hospitals attached with the teaching institution, District Level/Integrated/State Ayush Hospitals, Tertiary care allopathic hospitals having Ayush facilities, multiple departments/facilities for diagnosis and interventions. Must provide additional facilities like dieticians, counselling.

**Clinical Diagnosis**<sup>1,7,9</sup>: Same as levels 1 & 2. Confirm diagnosis and severity with the help of investigations such as

- Patch test (for allergic contact dermatitis)
- Detailed evaluation: Skin biopsy
- Peripheral blood eosinophil count

**Management:** Same as levels 1 & 2. For the patients referred from Level-1 or 2, treatment given in Level-1 &/or 2 may be continued if appropriate for the presenting condition or the case may be reassessed for the totality of symptoms and treatment may be given accordingly.

For new cases at this level, the totality of symptoms presented by the patient is the sole indicative and guide for treating each patient.

In addition to the level 1 and level 2 management strategies, homoeopathy has a number of remedies that can ease pain and other symptoms in patients in those who have not responded to treatment due to a lack of symptoms, co-morbid conditions, or the use of other immune suppressive, oral hypoglycaemic agents, or antihypertensive. Medications can therefore be prescribed based on the sphere of action or keynote symptoms as a part of supportive management in these disorders as well as other advanced pathological states. There are remedies which can be used during acute exacerbation conditions. Some of the remedies which can be considered are given below:<sup>31, 32, 33</sup>

| S. No. | Medicines*                  | Dose Form*                                                                                                                                                                                 | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                                                                                                        |
|--------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.     | <b>Apis mellifica</b>       | *Varies as per the need of the case depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | <b>Mother tincture:</b><br>Echinacea angustifolia Q<br>Anagallis arvensis Q<br><br><b>Schussler's biochemic remedies</b><br>(Calcareo sulphurica, Kalium muriaticum, Kalium phosphoricum, Natrum muriaticum,) may also be prescribed as per the need of the case. |
| 2.     | <b>Arsenicum iodatum</b>    |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 3.     | <b>Belladonna</b>           |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 4.     | <b>Berberis aquifolium</b>  |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 5.     | <b>Croton tiglium</b>       |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 6.     | <b>Dulcamara</b>            |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 7.     | <b>Kalium arsenicum</b>     |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 8.     | <b>Kalium sulphuricum</b>   |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 9.     | <b>Malandrinum</b>          |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 10.    | <b>Mezereum</b>             |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 11.    | <b>Oleander</b>             |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 12.    | <b>Tarentula cubensis</b>   |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 13.    | <b>Tellurium metallicum</b> |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 14.    | <b>Urtica urens</b>         |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 15.    | <b>Viola tricolor</b>       |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |
| 16.    | <b>Vinca minor</b>          |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                   |

**Recommended Diet and Lifestyle:** Same as levels 1 & 2

**Restricted Diet and Lifestyle:** Same as levels 1 & 2

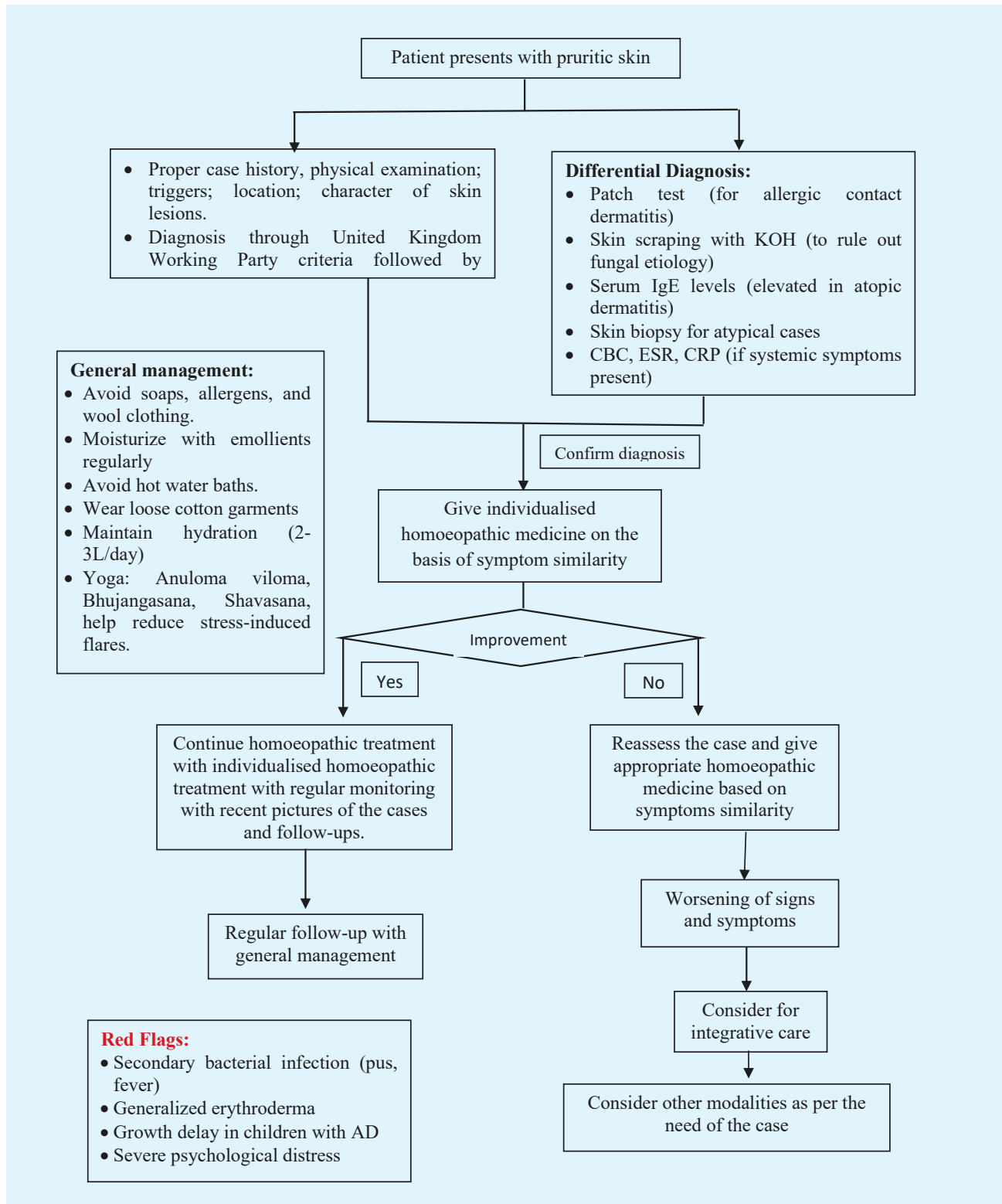
**Follow up:** (Every 7 days or earlier as per the need)

**Referral Criteria:**

- Same as mentioned earlier at level 2, plus
- Life-threatening complications, e.g., sepsis from superimposed infection.
- Treatment-refractory cases are unresponsive to homoeopathy and supportive therapy.
- Severe psychological morbidity needs inpatient psychiatric care.

- Integrated approach for cases with psychiatric distress or systemic complications.
- Uncontrolled immunosuppressive complications such as infections like *Staphylococcus aureus*, eczema herpeticum (HSV), and molluscum, ocular complications such as cataracts and keratoconus, telangiectasia, and acneiform eruptions, hypertension and nephrotoxicity, etc.
- Suspicion of malignancy or precancerous skin changes (e.g., cutaneous T-cell lymphoma)
- Requirement of immunosuppressants or systemic antibiotics.
- Other modalities can be considered depending on the case.

## ALGORITHM OF TREATMENT PROCESS FOR DERMATITIS



Indications of medicines for Dermatitis<sup>31, 32, 33</sup>

| Sr. No. | Medicine                 | General Indications                                                                                                                                                                                                                                                                                                                                                                                                       | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Antimonium crudum</b> | <i>It is pre-eminently a scrofulous remedy. Chilly patient. Thickly coated white tongue, dry lips. Saltish saliva. Slimy mucus. for children and old people with tendency to grow fat. Excessive irritability and fretfulness. Sentimental mood. Children cannot bear to be touched or looked at. Desire for acids, pickles. All the conditions are aggravated by heat and cold bathing.</i>                              | <ul style="list-style-type: none"> <li>• Eczema with gastric derangements thick, hard crusts.</li> <li>• Nails become brittle, grow in splits, deformed. Itching worse from heat, warm in bed.</li> <li>• Useful in long-standing indurated skin conditions.</li> </ul>                                                                                                                                                                                                                                                                                                                |
| 2.      | <b>Apis mellifica</b>    | <i>Hot patient; thirstlessness; edematous, bag like puffy swelling under the eyes, glands enlarged and indurated. Constant whining, nothing seems to satisfy, irritable, sensitive to touch, cannot bear to be left alone, restlessness and fidgety, awkward drops things easily from hands, hard to please. Worse afternoon; closed, especially warm and heated rooms are intolerable; better from cold application.</i> | <ul style="list-style-type: none"> <li>• Sore, sensitive. Stinging. Erysipelas, with sensitiveness and swelling, rosy hue.</li> <li>• Eruption over whole body of red spots, which on close inspection revealed numerous small vesicles, which at times exuded moisture, forming thin or yellowish scales and crusts;</li> <li>• Eruptions attended with intolerable stinging, burning and itching, so severe as to cause patient to scratch her skin till it bleeds;</li> <li>• Eruption &lt; by slightest breath of air, but equally sensitive to warmth of room and bed.</li> </ul> |
| 3.      | <b>Arsenicum album</b>   | <i>Chilly patient; weak, rapid disproportionate prostration; burning pains better by heat (except headache) increased thirst, drinks often but little at a time; craves milk; cadaveric odour of discharges and body. Anxiety, restlessness, fretful, wants to be carried, anguish, fear for death and restlessness.</i>                                                                                                  | <ul style="list-style-type: none"> <li>• Skin is dry, rough, scaly, eruptions burn intensely, better by heat, worse by cold.</li> <li>• Itching worse at night, scratching leads to burning.</li> <li>• Chronic eczema with burning pains and marked restlessness often needs this remedy.</li> </ul>                                                                                                                                                                                                                                                                                  |
| 4.      | <b>Arsenicum iodatum</b> | <i>Acridity of all discharges. Emaciation. Hurried, impatience, anxiety about health, restless at night. Worse from tobacco; smoke. Better in open air.</i>                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Skin dry, scaly, itching.</li> <li>• Marked exfoliation of skin in large scales, leaving a raw exuding surface beneath. Ichthyosis.</li> <li>• Eczema of the beard; watery, oozing, itching; worse, washing. Psoriasis.</li> <li>• Acne hard, shotty, indurated base with pustule at apex.</li> </ul>                                                                                                                                                                                                                                         |

| Sr. No. | Medicine                   | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.      | <b>Belladonna</b>          | <p><i>Congestion is the keynote of the medicine; hot, red skin, flushed face, glaring eyes, throbbing carotids. Sudden, violent effects; burning heat; bright redness; throbbing pains, appear and disappear suddenly. Thirstless, Dryness of mouth and throat with aversion to water. Right-sided complaints.</i></p> <p><i>Excited mental state, delirium, restless sleep, convulsive movements. Wildly delirious, restless, sensitive, nervous; child jovial and entertaining when well but violent when sick.</i></p> <p><i>Ailments from: sudden exposure to sun or heat, acute inflammation. Worse, touch, jar, noise, draught, after noon, lying down. Better, semi-erect.</i></p> | <ul style="list-style-type: none"> <li>• Eruption of petechiæ, with itching and redness of the whole body.</li> <li>• Miliary eruptions.</li> <li>• Vesicles which discharge a great deal of serum and are so painful as to extort cries and groans.</li> <li>• Smooth, even shining (not circumscribed) redness of the skin, with bloatedness, dryness, heat, burning itching and swelling of the parts (esp. face, neck, chest, abdomen and hands).</li> <li>• Pain, as of excoriation, burning and pulling in ulcers, principally on being touched, during motion, and in the night.</li> </ul> |
| 6.      | <b>Berberis aquifolium</b> | <p><i>A remedy for the skin, chronic catarrhal affections, secondary syphilis. Hepatic torpor, lassitude and other evidence of incomplete metamorphosis; stimulates all glands and improves nutrition.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Pimples, dry, rough, scaly. Eruption on scalp extending to face and neck.</li> <li>• Psoriasis. Acne.</li> <li>• Dry eczema.</li> <li>• Pruritus.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                              |
| 7.      | <b>Calcarea carbonica</b>  | <p><i>Chilly patient; takes cold easily; fat, fair, flabby with large head, distended abdomen with red face; pale, weak, easily tired; head sweats profusely while sleeping; sour smelling discharges; longing for fresh air.</i></p> <p><i>Slow development of milestones; tendency for lymphatic glandular enlargement; fearful, shy, timid, slow and sluggish.</i></p> <p><i>Desire for eggs and indigestible things; aversion to meat and milk; feels better when constipated.</i></p>                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Skin is slow to heal, unhealthy, every injury tends to ulcerate.</li> <li>• Eczema with thick crusts, especially milk crust in infants.</li> <li>• Itching worse from cold.</li> <li>• Feet often cold and damp.</li> </ul>                                                                                                                                                                                                                                                                                                                               |
| 8.      | <b>Croton tiglium</b>      | <p><i>People with very sensitive skin, prone to sudden vomiting and violent intestinal symptoms.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Vesicular eruptions with intense itching and burning, rapidly spreading on scratching.</li> <li>• Eczema of face and scrotum with violent itching, worse from slightest touch.</li> <li>• Often used for dermatitis with sudden onset and rapid spreading.</li> </ul>                                                                                                                                                                                                                                                                                     |

| Sr. No. | Medicine                         | General Indications                                                                                                                                                                                                                                                                                                                                                             | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.      | <b>Dulcamara</b>                 | <p><i>Chilly patient. The rheumatic troubles induced by damp cold are aggravated by every cold change and somewhat relieved by moving about. Results from sitting on cold, damp ground.</i></p> <p><i>Restless and irritable.</i></p> <p><i>Worse by exposure to cold, sudden change of temperature, damp rainy weather, getting feet cold; Better warmth, dry weather.</i></p> | <ul style="list-style-type: none"> <li>• Humid eruptions on face, genitals, hands, arms around the menstrual period.</li> <li>• Thick, brown-yellow crusts, bleeding when scratched.</li> <li>• Worse at night.</li> <li>• Better from moving about, external warmth</li> </ul>                                                                                                                                                                                            |
| 10.     | <b>Graphites</b>                 | <p><i>Chilly patient takes cold easily; fatty; pale; tendency to skin affections and constipation; lumpy, thick, hard skin and glands; dislikes sweets.</i></p> <p><i>Cautious, indecisive and lazy; history of delayed menstruation.</i></p> <p><i>Prefer warmth, dread cold air.</i></p>                                                                                      | <ul style="list-style-type: none"> <li>• The skin is rough, hard, unhealthy, prone to crack, especially in folds like behind ears and joints.</li> <li>• Eruptions ooze a thick, gluey, honey-like fluid, forming crusts that bleed on scratching.</li> <li>• Intense itching worse at night and from warmth.</li> <li>• Nails become thick, deformed, brittle, often split.</li> <li>• Useful when eruptions have been suppressed or after local applications.</li> </ul> |
| 11.     | <b>Hepar sulphuris calcareum</b> | <p><i>Extremely sensitive to slightest draft, must be wrapped up warmly, cannot bear uncovering.</i></p> <p><i>Peevish, irritable, easily angered.</i></p> <p><i>Desires sour and strong-tasting things.</i></p>                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Eruptions are sensitive, bleed easily, tend to suppurate.</li> <li>• Unhealthy skin, slow to heal, every small injury form pus.</li> <li>• Cracks and fissures painful.</li> <li>• Useful to hasten suppuration when there is tendency to abscess formation.</li> </ul>                                                                                                                                                           |
| 12.     | <b>Kali sulphuricum</b>          | <p><i>Thin, weak individuals with constantly shifting symptoms, prefer cool open air, dislike warm rooms, often irritable.</i></p>                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Papular eruptions with yellow sticky discharge.</li> <li>• Skin complaints constantly shift from one place to another.</li> <li>• Eczema with yellow oozing worse in warm, closed rooms.</li> </ul>                                                                                                                                                                                                                               |
| 13.     | <b>Kalium arsenicosum</b>        | <p><i>The patient tends towards malignancy, and inveterate skin diseases.</i></p> <p><i>He is restless, nervous and anaemic.</i></p> <p><i>Chilly patients with aggravation at night.</i></p>                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Chronic eczema; itching worse from warmth, walking, undressing. Psoriasis, lichen.</li> <li>• Intolerable itching, worse undressing.</li> <li>• Dry, scaly, wilted.</li> <li>• Acne; pustules worse during menses.</li> </ul>                                                                                                                                                                                                     |

| Sr. No. | Medicine                   | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14.     | <b>Lycopodium clavatum</b> | <p><i>Hot patient, intellectually keen but physically weak; upper part of body emaciated, lower part semi-dropsical; complexion pale, dirty, sallow with deep furrows; looks old; recurrent respiratory and gastro intestinal affections; tendency for flatulent dyspepsia; worse from 4- 8 pm; right sided complaints or symptoms shift from right to left.</i></p> <p><i>Dominating, cranky, lack of self-confidence, precocious, desires company, shy, fear to be alone.</i></p> <p><i>Desire for warm foods and drinks, sweet.</i></p>                         | <ul style="list-style-type: none"> <li>• Dry, scaly eczema especially in folds of skin like elbows and knees.</li> <li>• Skin complaints are often linked with gastric disturbances.</li> <li>• Itching worse from warmth of bed.</li> <li>• Often eruptions come with digestive troubles.</li> </ul>                                                                                                            |
| 15.     | <b>Malandrinum</b>         | <p><i>Especially useful in constitutions affected by bad effects of vaccination or old vaccine complications. Often sluggish, prone to glandular swellings.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Eruptions following vaccination, pustular eczema, skin becomes dry, rough, scaling.</li> <li>• Often used when eruptions appear after vaccination or in eczema pustulosum.</li> </ul>                                                                                                                                                                                   |
| 16.     | <b>Mezereum</b>            | <p><i>Chilly patient; sensitive to cold air; after effects of vaccination, prone to skin affections; constant longing for food.</i></p> <p><i>Indifference; vexed and angry at trifles but is soon sorry and drawing for it; aggravation while alone.</i></p> <p><i>Craving for fat.</i></p>                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Characterized by thick leathery crusts on scalp under which thick white pus collects, matting the hair.</li> <li>• Eruptions burn on touch, itch violently, worse from warmth of bed.</li> <li>• Vesicles may become pustular, exuding acrid matter and forming scabs.</li> <li>• Often associated with neuralgia or eruptions that ooze under thick crusts.</li> </ul> |
| 17.     | <b>Natrum muriaticum</b>   | <p><i>Hot patient, poorly nourished, great emaciation (marked on neck); losing flesh while living well; craving for salt; aversion to bread and fatty things; constipated; increased thirst; mapped tongue with red insular patches.</i></p> <p><i>Melancholic, sad, plays alone, irritable, cross, cries when spoken to; awkward, hasty, drops things from nervous weakness; disposition to weep without cause, consolation aggravates.</i></p> <p><i>Worse: lying down, talking. Better: open air, going without regular meals, lying on the right side.</i></p> | <ul style="list-style-type: none"> <li>• Eczema; raw, red, and inflamed; worse, eating salt, at seashore. Eczema worse from heat, often dry eruptions in bends of joints.</li> </ul>                                                                                                                                                                                                                             |

| Sr. No. | Medicine                  | General Indications                                                                                                                                                                                                                                                                                                                                    | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18.     | <b>Oleander</b>           | <i>Memory weak; slow perception. Melancholy, with obstinate constipation. Pale, sunken, with blue rings around eyes.</i><br><i>Worse, undressing, rest, friction of clothes.</i>                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Very sensitive skin;</li> <li>• Slightest friction causes soreness and chapping.</li> <li>• Violent itching eruption, bleeding, oozing; want of perspiration.</li> <li>• Pruritus, especially of scalp, which is sensitive.</li> </ul>                                                                                                                                |
| 19.     | <b>Petroleum</b>          | <i>Adapted to persons with light hair and skin; Heat and burning of soles of feet and palms of hands; Sweat and moisture of external genitals, both sexes.</i><br><i>Irritable quarrelsome disposition; easily offended at trifles; vexed at everything.</i><br><i>Worse: during a thunderstorm; in winter.</i>                                        | <ul style="list-style-type: none"> <li>• Skin cracks deeply, especially hands and tips of fingers, bleeding easily, very painful.</li> <li>• Eczema with hard thick crusts, often moist beneath.</li> <li>• Itching worse in winter.</li> <li>• Tendency to ulcerate, with foul discharges.</li> <li>• Useful in long-standing skin complaints aggravated by cold.</li> </ul>                                  |
| 20.     | <b>Psorinum</b>           | <i>Extreme sensitiveness to cold. Debility, independent of any organic disease, especially the weakness remaining after acute disease. Lack of reaction, i.e, phagocytes defective; when well-chosen remedies fail to act. Scrofulous patients. Secretions have a filthy smell. Profuse sweating. Often gives immunity from cold-catching.</i>         | <ul style="list-style-type: none"> <li>• Skin looks dirty, greasy, with eruptions that itch intolerably at night and from warmth of bed.</li> <li>• Scratching aggravates.</li> <li>• Especially when well-selected remedies fail or eruptions repeatedly relapse.</li> </ul>                                                                                                                                  |
| 21..    | <b>Rhus toxicodendron</b> | <i>Chilly patient; sore, body bruised and stiff; restless, can't rest in any position; red triangular tip of tongue; unquenchable thirst.</i><br><i>Great apprehension at night, sad, anxious; weeping without knowing why.</i><br><i>Desire for cold milk; worse in damp, cold, rainy weather, during rest and sleep, better by continued motion.</i> | <ul style="list-style-type: none"> <li>• Skin shows erysipelatous, vesicular eruptions, Yellow vesicles, left to right, much swelling, burning, itching, stinging.</li> <li>• Intense itching worse at night and from exposure to cold air, relieved by warmth.</li> <li>• Small vesicles form on a red base and later crust.</li> <li>• Typical for eczema after getting wet or from damp weather.</li> </ul> |
| 22.     | <b>Sepia officinalis</b>  | <i>Chilly patient; tall, thin built with yellow saddle across upper part of cheeks and nose, big belly; dry flabby skin. Predisposed to take cold at change of weather.</i><br><i>Cheerful, active when well but indifferent and quarrelsome when sick; self absorbed, sad, weeping and indolent.</i><br><i>Desire for sour food which aggravates.</i> | <ul style="list-style-type: none"> <li>• Skin is dry, rough, with eruptions often worse before menstruation.</li> <li>• Typical ringworm-like eruptions on face, in isolated spots in upper part of the body or in bends of joints.</li> <li>• Itching aggravated by washing.</li> </ul>                                                                                                                       |

| Sr. No. | Medicine                    | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Characteristic particulars                                                                                                                                                                                                                                                        |
|---------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 23.     | <b>Sulphur</b>              | <p><i>Hot patient, kicks off the cloth at night; dirty, filthy, does not want to be washed; lean, thin, stoop-shouldered; child who walks and sit stooping; prone to skin affections, venous congestions; have a very weak and faint feeling about 11 a.m. and must have something to eat; have burning heat on palms and soles especially at night, red orifices; when the best selected remedy fails to improve.</i></p> <p><i>Restless, quick tempered.</i></p> <p><i>Desires sweets, sugar, meat. Worse from standing, at night</i></p> | <ul style="list-style-type: none"> <li>• Skin is dry, scaly, unhealthy; every little scratch or injury suppurates.</li> <li>• Itching intense, worse at night, from warmth of bed, scratching causes burning.</li> <li>• Old scars may become red and itch.</li> </ul>            |
| 24.     | <b>Tarentula cubensis</b>   | <p><i>Very excitable, restless, extremely sensitive, cannot bear slightest touch. Often experiences numbness.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Skin intensely sensitive, slightest pressure intolerable.</li> <li>• Often used in gangrenous or rapidly sloughing skin affections.</li> </ul>                                                                                           |
| 25.     | <b>Tellurium metallicum</b> | <p><i>Odour of body and sweat offensive and garlic like, discharges are acrid, excites itching, vesicates any part of skin it touches.</i></p> <p><i>Nervous, sensitive individuals, tired easily.</i></p> <p><i>Cravings for – apples.</i></p>                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Eruptions look like ringworm circular, red, scaly, with very offensive odour.</li> <li>• Worse after bathing.</li> <li>• Especially used in eczema with fungus-like infections or ringworm appearance.</li> </ul>                        |
| 26.     | <b>Thuja occidentalis</b>   | <p><i>Chilly patient; dark, fleshy with greasy face; Dark hair. Unhealthy skin, looks dirty with brownish spots; tendency for warty growths; oily/ greasy sweat, face &amp; stool; perspiration on uncovered parts.</i></p> <p><i>Complaints worse from cold, warm air &amp; damp humid weather, at night; and chronic complaints better during a cold. Better by warmth, free secretions, while drawing up a limb, left side, lazy. Ailments from vaccination; with illusions &amp; fixed ideas.</i></p>                                   | <ul style="list-style-type: none"> <li>• Dry itching eruptions that may bleed on scratching.</li> <li>• Often indicated after vaccination or suppressed gonorrhoea.</li> </ul>                                                                                                    |
| 27.     | <b>Vinca minor</b>          | <p><i>A remedy for skin affections, eczema, and especially plica polonica. Weakness and prostration accompanied many of the sufferings; Weakness as if he would die. Emptiness or hungry feeling.</i></p>                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Corrosive itching.</li> <li>• Great sensitivity of skin, with redness and soreness from slight rubbing.</li> <li>• Eczema of head and face; pustules, itching, burning, and offensive odour.</li> <li>• Hair matted together.</li> </ul> |

| Sr. No. | Medicine              | General Indications                                                                                                                                                                                                                                                                          | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                       | <p><i>Tremulous feeling: in all the vessels; in upper extremities, with tendency to start, especially on exerting the mind. Sadness with fear of death. Lachrymose. Peevish and quarrelsome, soon followed by repentance.</i></p> <p><i>Most symptoms &gt; moving about in open air.</i></p> |                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 28.     | <b>Viola tricolor</b> | <p><i>Suits scrofulous, weak children who are restless at night, pass large quantities of urine with strong odour like cat's urine. Skin eruptions in children.</i></p> <p><i>Nervous, irritable temperaments.</i></p>                                                                       | <ul style="list-style-type: none"> <li>• Head is covered with thick crusts under which yellow pus collects.</li> <li>• Eczema chiefly on face and scalp, often moist and excoriating.</li> <li>• Intense itching with yellowish oozing under crusts.</li> </ul>                                                                                                                                                              |
| 29.     | <b>Urtica urens</b>   | <p><i>A remedy for agalactia and lithiasis. Profuse discharge from mucous surfaces. Enuresis and urticaria. Spleen affections. Antidotes ill-effects of eating shellfish. Symptoms return at the same time every year. Gout and uric acid diathesis. Favors elimination.</i></p>             | <ul style="list-style-type: none"> <li>• In skin of face, arms, shoulders and chest, extremely distressing burning heat with formication, numbness and violent itching.</li> <li>• Nettle rash: itching and burning of skin as if scorched; raised, red blotches; fine stinging points; pale and requires constant rubbing; attending or preceding rheumatism.</li> <li>• Consequences of suppressed nettle rash.</li> </ul> |

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# 02

## DERMATOPHYTOSIS





# DERMATOPHYTOSIS

[ICD-10 code: B-35]

[ICD-11 code: 1F28]

## CASE DEFINITION

Superficial infection caused by a dermatophyte is known as Dermatophytosis or ringworm. This term is a misnomer because worms are not involved<sup>1</sup>. "Tinea", the Latin name for worm, describes the serpentine appearance of the skin lesions<sup>2</sup>.

## INTRODUCTION (*Incidence/Prevalence /morbidity/mortality/risk factors*)

- Dermatophytes (keratinophilic fungi) are the most common cutaneous fungal infections seen in humans affecting skin, hairs and nails with a considerable morbidity.<sup>3</sup>
- According to World Health Organization (WHO), the prevalence rate of superficial mycotic infection worldwide has been found to be 20-25%.
- Its prevalence varies in different countries. It is more prevalent in tropical and subtropical countries like India where the heat and humidity are high for most part of the year.<sup>4,5</sup> Community - based surveys and dermatology outpatient data show 20-30% prevalence, especially in humid regions. In some areas, up to 50-60% of dermatology OPD cases are due to tinea.
- An epidemic of recalcitrant dermatophyte infection has engulfed India and many part of the world and the species that is dominant has been controversially named as *Trichophyton indotinae*.<sup>6</sup> This is resistant to many front-line drugs. This has led to an alteration in the immunity.<sup>7</sup> A National Task force was formed which details the cause of recalcitrant infection as below. Notably steroid abuse has led to varied forms of tinea classically tinea incognito and majocchi variant which do not respond to conventional agents.

| Factors implicated in recalcitrant tinea <sup>8</sup>                                                  |
|--------------------------------------------------------------------------------------------------------|
| Clinical type of tinea<br>Fungal species- <i>Trichophyton Indotinae</i><br>Host Immunity<br>Resistance |

- The new species *Trichophyton Indotinae* has unique mechanisms of resistance and is fast becoming the most dominant variety of tinea in India
- Chronic and recurrent cases have increased significantly in the last 5-10 years due to overuse of topical steroids and antifungal creams which have made them resistant to common antifungal drugs.
- Tinea is not life threatening, but it causes severe itching and discomfort, social embarrassment and stigma, sleep disturbances, work absenteeism and reduced productivity.

- Study using DLQI (Dermatology Life Quality Index) shows moderate to severe impact on quality of life in 40-60% of chronic / recurrent cases. Psychological stress, anxiety and low self-esteem are common.<sup>9,10</sup>

## CLINICAL PRESENTATION<sup>11,12,13</sup>

### a) Typical Lesion-

- A typical lesion of tinea is an annular or arcuate plaque which spreads centrifugally (away from the centre).
- The edge is active, showing papulo-vesiculation, pustulation and scaling, while the centre is usually relatively clear.
- In chronic lesion there may be nodules, hyperpigmentation and even lichenification (thickening, hyperpigmentation and increased skin markings) in the centre.
- In India due to steroid abuse altered morphologies including tinea incognito and Majocchi Granuloma are seen. (Fig 1)



Figure 1: Follicular papules in a lesion of tinea corporis seen in Majocchi Granuloma

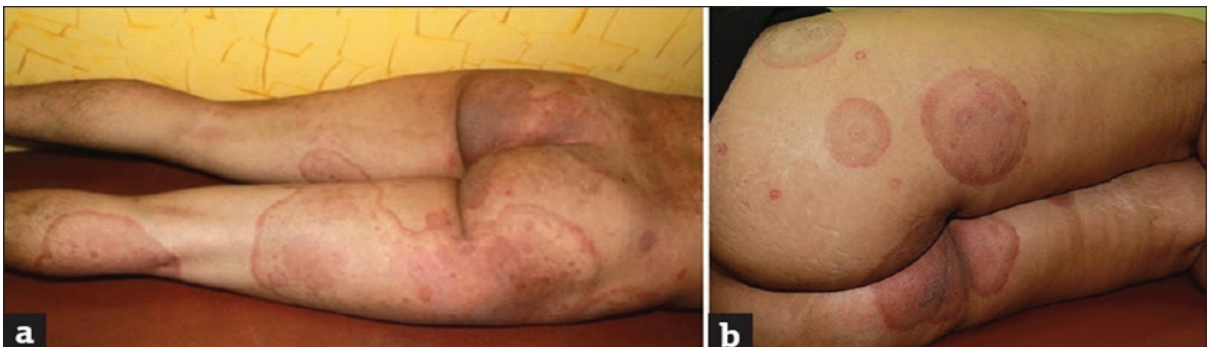


Figure 2: (a & b) Large sized, erythematous patches with active border over the gluteal regions and legs. (Figure 1 & 2: Courtesy: Verma et al. Indian J Dermatol 2017; 62:227-36)

- b) As *T. indotinae* has become a dominant cause of tinea corporis. Specific features of this variant are now well described and are listed in the Table below.
- c) **Asymptomatic tinea carrier-** are defined as individuals in which dermatophytes are identified, even though no clinical signs are observed. Anthropophilic species adapt more easily to the host and induce a weaker immune response.

**d) Sites of Infection-** on the basis of site of infection, can present as tinea corporis (body); tinea cruris (groin); tinea capitis (scalp); tinea pedis (feet); tinea manuum (hands); tinea unguium (nails); tinea barbae (bearded area)

## CLINICAL EXAMINATION<sup>10</sup>

A thorough clinical examination helps to diagnose, classify and differentiate from other dermatoses.

**1. General Inspection includes** Observation of site(s) of infection, number, size and distribution of lesion. Common sites include groin, axillae, trunk, face, feet, hands, nails, scalp. Ask about onset, progression, recurrence, family history and steroid/antifungal use.

### 2. Local Examination

| Features        | Description                                              |
|-----------------|----------------------------------------------------------|
| Shape           | Annular (ring like), circular/oval.                      |
| Border          | Well defined, raised, erythematous, active margin.       |
| Colour          | Redness.                                                 |
| Distribution    | Examine the location and extent of lesions               |
| Centre          | May appear normal or hypopigmented.                      |
| Scaling         | Present especially at margin.                            |
| Itching         | Usually intense pruritus, especially at night.           |
| Coalescence     | Lesion may merge into each other in long standing cases. |
| Lichenification | In chronic steroid modified cases.                       |
| Inflammation    | Degree of inflammation (redness, swelling)               |

### 3. Region Specific Examination

| Type                        | Clinical Sign                                                                                                                                                         |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tinea corporis (body)       | Ringworm lesion on trunk/limbs, raised scaly borders, presents as circumscribed lesions with a wide variety of appearances, including scales, vesicles, and pustules. |
| Tinea cruris (groin)        | Red itchy rash in groin/thighs, often bilateral.                                                                                                                      |
| Tinea capitis (scalp)       | Patchy hair loss, inflammation, black dots, scaling, boggy swellings (kerion), broken hair.                                                                           |
| Tinea pedis (feet)          | Scaling, fissures between toes, moccasin – type dryness, cracked skin between toes (itching and inflammation).                                                        |
| Tinea manuum (hands)        | One hand typically involves, dry scaling, hyperkeratosis or blistering.                                                                                               |
| Tinea unguium (nails)       | Thickened, brittle, discoloured nails, onycholysis.                                                                                                                   |
| Tinea faciei (face)         | Erythematous plaques, often aggravated by sun or steroids.                                                                                                            |
| Tinea barbae (bearded area) | Tinea of the bearded area, appears as a pustular folliculitis.                                                                                                        |

## DIFFERENTIAL DIAGNOSIS <sup>14,15</sup>

| Differential diagnosis                                                                                                                                                                                                               | Distinguishing features                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tinea corporis (annular lesions with well-defined, scaly, often reddish margins; commonly pruritic)</b>                                                                                                                           |                                                                                                                                                                                      |
| Annular psoriasis                                                                                                                                                                                                                    | Gray or silver scale; nail pitting; 5-10% of affected individuals have family history of psoriasis <sup>2</sup>                                                                      |
| Atopic dermatitis                                                                                                                                                                                                                    | Personal or family history of atopy; less likely to have active border with central clearing; lesions may be lichenified.                                                            |
| Erythema multiforme                                                                                                                                                                                                                  | Target lesions; acute onset; no scale; may have oral lesions.                                                                                                                        |
| Fixed drug eruption                                                                                                                                                                                                                  | Dusky; erythematous; usually single, non-scaly lesion; most often triggered by sulfa, acetaminophen, ibuprofen, or antibiotic use.                                                   |
| Granuloma annulare                                                                                                                                                                                                                   | No scale, vesicles, or pustules; nonpruritic; smooth; commonly on dorsum of hands or feet.                                                                                           |
| Lupus erythematosus (sub-acute cutaneous)                                                                                                                                                                                            | Sun-exposed areas; multiple annular atrophied lesions; female-to-male ratio 3:1 <sup>3</sup>                                                                                         |
| Nummular eczema                                                                                                                                                                                                                      | More confluent scale; less likely to have central clearing. Mostly situated on the extensor surface of extremities.                                                                  |
| Pityriasis rosea herald patch                                                                                                                                                                                                        | Typically, an adolescent with a single lesion on neck, trunk, or proximal extremity; pruritus of herald patch is less common; progression to generalized rash in one to three weeks. |
| Seborrheic dermatitis                                                                                                                                                                                                                | Greasy scale on erythematous base with typical distribution involving nasolabial folds, hairline, eyebrows, postauricular folds, chest; annular lesions less common.                 |
| Secondary syphilis                                                                                                                                                                                                                   | It may present with annular lesions, but also involves other areas like palms, soles and mucous membranes.                                                                           |
| <b>Tinea cruris (usually occurs in male adolescents and young men; spares scrotum and penis)</b>                                                                                                                                     |                                                                                                                                                                                      |
| Candidal intertrigo                                                                                                                                                                                                                  | Involves scrotum; satellite lesions; uniformly red without central clearing.                                                                                                         |
| Erythrasma                                                                                                                                                                                                                           | It is a bacterial infection presenting as red-brown patches without an active border, showing coral-red fluorescence under Wood's lamp examination.                                  |
| Inverse psoriasis                                                                                                                                                                                                                    | Red and sharply demarcated; may have other signs of psoriasis such as nail pitting.                                                                                                  |
| Seborrheic dermatitis                                                                                                                                                                                                                | Greasy scale on erythematous base with typical distribution involving nasolabial folds, hairline, eyebrows, postauricular folds, chest; annular lesions less common.                 |
| Lichen simplex chronicus                                                                                                                                                                                                             | Thickened itchy skin due to chronic scratching.                                                                                                                                      |
| Contact dermatitis                                                                                                                                                                                                                   | It can cause similar itching and redness in the groin area.                                                                                                                          |
| <b>Tinea pedis (Erythema, scale, fissures, maceration; itching between toes extending to sole, borders, and occasionally dorsum of foot; may be accompanied by tinea manuum ["one-hand, two-feet" involvement] or onychomycosis)</b> |                                                                                                                                                                                      |

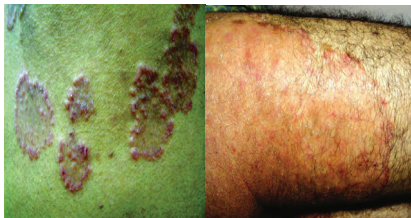
| Differential diagnosis                                                                                                                                                                                                                                                                                                                                  | Distinguishing features                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact dermatitis                                                                                                                                                                                                                                                                                                                                      | Distribution may match footwear; usually spares interdigital skin.                                                                                                                                        |
| Dyshidrotic eczema                                                                                                                                                                                                                                                                                                                                      | “Tapioca pudding” vesicles on lateral aspects of digits; often involves hands.                                                                                                                            |
| Foot eczema                                                                                                                                                                                                                                                                                                                                             | May have atopic history; usually spares interdigital skin.                                                                                                                                                |
| Juvenile plantar dermatosis                                                                                                                                                                                                                                                                                                                             | Shiny taut skin involving great toe, ball of foot, and heel; usually spares interdigital skin.                                                                                                            |
| Psoriasis                                                                                                                                                                                                                                                                                                                                               | Involvement of other sites; grey or silver scale; nail pitting; 5-10% of affected children have family history of psoriasis <sup>2</sup> .                                                                |
| <b>Tinea capitis (one or more patches of alopecia, scale, erythema, pustules, tenderness, pruritus, with cervical and suboccipital lymphadenopathy)</b>                                                                                                                                                                                                 |                                                                                                                                                                                                           |
| Alopecia areata                                                                                                                                                                                                                                                                                                                                         | Discrete patches of hair loss with no epidermal changes (i.e., no scale); total loss of hair or fine miniature hair growth; exclamation point hairs; no crusting; no inflammation; possible nail pitting. |
| Systemic lupus erythematosus (SLE)                                                                                                                                                                                                                                                                                                                      | It can affect the scalp causing hair loss and inflammation.                                                                                                                                               |
| Atopic dermatitis                                                                                                                                                                                                                                                                                                                                       | Personal history or family history of atopy; less often annular; lymphadenopathy uncommon; alopecia less common.                                                                                          |
| Bacterial scalp abscess                                                                                                                                                                                                                                                                                                                                 | Alopecia less likely; hair pluck is painful.                                                                                                                                                              |
| Psoriasis                                                                                                                                                                                                                                                                                                                                               | Gray or silver scale; nail pitting; 70% of affected children have family history of psoriasis <sup>2</sup> ; involvement of other sites.                                                                  |
| Seborrheic dermatitis                                                                                                                                                                                                                                                                                                                                   | Alopecia uncommon; lymphadenopathy uncommon; greasy scale; typical distribution involving nasolabial folds, hairline, eyebrows, postauricular folds, chest.                                               |
| Trichotillomania                                                                                                                                                                                                                                                                                                                                        | No scale; commonly involves eyelashes and eyebrows; hairs of varying lengths.                                                                                                                             |
| <b>Tinea unguium (Onychomycosis) (discoloured [white, yellow, brown], thickened nail with subungual keratinous debris and possible nail detachment; often starting with great toe but can involve any nail)</b>                                                                                                                                         |                                                                                                                                                                                                           |
| Other nail dystrophies, most commonly associated with repeated low-grade trauma, psoriasis, or lichen planus                                                                                                                                                                                                                                            | Appearance can be indistinguishable from onychomycosis; may have other manifestations of alternate diagnosis                                                                                              |
| <b>Pityriasis versicolor, is a frequent, benign, superficial fungal infection of the skin. It belongs to Malassezia-related diseases. Clinical features of pityriasis versicolor include either hyperpigmented or hypopigmented finely scaly macules. The most frequently affected sites are the trunk, neck, and proximal extremities<sup>16</sup></b> |                                                                                                                                                                                                           |

## SUPPORTIVE INVESTIGATIONS<sup>17,18</sup>

| Test                                                                                      | Description                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Essential</b>                                                                          |                                                                                                                                                                                                                                                                                           |
| <b>Potassium hydroxide (KOH) Scraping- Simple, inexpensive, quick and sensitive test.</b> | a) Interpretation of KOH mount.                                                                                                                                                                                                                                                           |
|                                                                                           | T. capitis<br>Branching hyphae.<br>Spores within or around the hair.                                                                                                                                                                                                                      |
|                                                                                           | T. cruris<br>Branching hyphae.                                                                                                                                                                                                                                                            |
|                                                                                           | T. corporis<br>Branching hyphae.                                                                                                                                                                                                                                                          |
| <b>Advanced</b>                                                                           |                                                                                                                                                                                                                                                                                           |
| <b>Cultures</b>                                                                           | Cultures need to be done when clinical suspicion is strong and KOH mount is negative or when it is necessary to identify the fungal species, Sabouraud dextrose agar medium is used. Microscopic morphology of microconidia & macroconidia, along with surface topography & pigmentation. |
| <b>Wood's Light</b>                                                                       | It is useful method of screening outbreaks of T. Capitis in schools. Wood's light fluoresces infected scalp hair in tinea capitis caused by certain species, not in all, but infected skin does not show fluorescence.                                                                    |
| <b>Dermatophyte test medium</b>                                                           | Scales from the advancing border, subungual debris or affected hair embedded in the medium.                                                                                                                                                                                               |
| <b>Histopathology special stains</b>                                                      | Periodic acid- Schiff & grocott's methenamine silver are used. Tissue by skin or nail biopsy are obtained.                                                                                                                                                                                |
| <b>Biopsy or Polymerase Chain Reaction (PCR)</b>                                          | They are used to confirm the types and extent of infection.                                                                                                                                                                                                                               |

## DIAGNOSTIC CRITERIA<sup>14,18,19</sup>

The diagnosis of tinea is based on mostly clinical examination.

| Type                   | Description                                                                                                                              | Image                                                                                 |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Tinea corporis/ cruris | Annular or arcuate lesion with periphery showing papulo-vesiculation with itching and scaling.                                           |  |
| Tinea capitis          | Pink, scaling itchy patches on the scalp skin and areas of hair loss due to the breakage of hair shafts, round scaling area of alopecia. |  |

| Type          | Description                                                                                                              | Image                                                                               |
|---------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Tinea unguium | Yellowish discolouration of nail plate which may show crumbling or is thickened. Asymmetrical involvement of few nails.  |  |
| Tinea pedis   | Vesicular, with itchy vesicles occurring on the sides of the feet on a background of erythema., interdigital maceration. |  |
| Tinea manuum  | Dull red with silvery scales in the palmar creases.                                                                      |  |

(Figures-Courtesy: Khanna N. Illustrated synopsis of dermatology and sexually transmitted diseases. 4th edition; 2011)

## Evaluation and Assessment

**The Dermatology Life Quality Index (DLQI)** is a practical 10-question tool assessing the impact of skin disease on patients' lives, scored from 0 to 30, with higher scores indicating greater impairment.<sup>20</sup>

**The Dermatology-specific Quality of Life (DSQL)** instrument measures physical, psychological, and social limitations through 36 items, focusing on disease-specific impacts.<sup>21</sup>

**Skindex-16** is a validated 16-item questionnaire scored on a 0–6 Likert scale, evaluating the effects of skin diseases on quality of life, with lower scores indicating better QoL.<sup>22</sup>

## PRINCIPLES OF MANAGEMENT

The principles of management include assessment of signs and symptoms before initiating treatment and the need for management through conventional treatment for associated co morbidities. If the patient is already under standard care, the physician may advice to continue the same along with add-on homoeopathy and can be assessed for the same in the follow ups for tapering or discontinue the treatment in consultation with the conventional physician.

### Red Flag signs:<sup>10</sup>

These signs should be assessed before initiating treatment for need for management/ consultation through modern medicine.

- Secondary bacterial infection.
- Intractable alopecia cases causing permanent hair loss in tinea capitis

- Uncontrolled Diabetes-mellitus
- Lower extremity cellulitis in cases of tinea pedis.
- Underlying severe immunodeficiency due to HIV/AIDS.
- Severe wide spread infection causing significant pain or inflammation or eczematization irrespective of treatment.

#### **(A) Prevention Management<sup>10,17</sup>**

- Educating patients about tinea preventive measures is crucial for promoting treatment adherence.
- Patients should be encouraged to wear light, loose-fitting clothing and keep the skin clean and dry to reduce the risk of developing the infection.
- Avoid skin-to-skin contact with an infected person.
- Avoid contact with objects or surfaces that an infected person or animal has recently touched or rubbed against, such as clothing, towels, bedding, linens, clothes and brushes.
- Avoid touching animals suffering from tinea.
- Avoid contact with highly infected soil.
- Taking regular showers. Wearing clothes only after thoroughly drying the body.
- Drying clothes inside out. Wearing well-dried inner garments after about 3–4 days of washing, if ironing is not possible.
- Washing infected clothes separately.
- Instructing patients with tinea cruris to wear “boxer shorts” instead of the tight-fitting ones that hug the groin and cut into it.
- Removing waistband, wristband, etc.
- Preferring non-occlusive footwear.

#### **Yoga<sup>23,24</sup>**

Yoga can play a supportive role in prevention by enhancing overall immunity and promoting skin health. Regular practice of asanas like Shavasana, Padmasana, Sidhasana, Makarasana, and Suryanamaskara improves blood circulation and detoxification, helping to maintain healthy skin. Pranayama and meditation reduce stress, which is known to lower immunity and increase susceptibility to infections. Shat kriya and yoga nidra help in deep relaxation for immune system repair.

#### **B) Interventions**

**At level 1-** Solo Physician Clinic / Health Clinic/ PHC (Optimal Standard of treatment where technology and resources are limited)

**Clinical Diagnosis:** The diagnosis of tinea is primarily clinical and made after physical dermatological examination. However, some investigations, such as a complete hemogram and KOH mount, may be done. Assessment according to Dermatology Life Quality Index (DLQI), Dermatology-specific Quality of Life (DSQL), SKINDEX-16.

#### **Management:**

Research studies indicate that homoeopathic medicines play a considerable role in not only alleviating the symptoms of tinea but also a significant role in improving the well-being, activity and quality of life of patients with tinea, without any adverse effects<sup>25,26</sup>. The totality of various characteristic signs and symptoms exhibited by the patient leads to the similimum remedy.

The homoeopathic concept of health is 'holistic' and 'individualistic'<sup>27</sup>. For individualisation of the patient, the 'Totality of Symptoms' which is not merely the numerical aggregate of all the symptoms but includes the idea or plan which unites them in a special manner to give them its characteristic form<sup>28</sup> and the miasmatic background of the case must be taken into consideration.

Flow-diagram for management is given at annexure I.

Some of the commonly prescribed medicines are as follows (indications of medicines is given at annexure II):<sup>29,30,31</sup>

| Sr. No | Medicines*                  | Dose form*                                                                                                                                                                                  | Dose* | Time* | Duration* | Adjuvants*                                                                                                                        |
|--------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1.     | <b>Arsenicum album</b>      | *Varies as per the need of the case, depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | Supportive local wash.                                                                                                            |
| 2.     | <b>Antimonium crudum</b>    |                                                                                                                                                                                             |       |       |           | Calendula Q / Echinacea Q                                                                                                         |
| 3.     | <b>Bacillinum burnett</b>   |                                                                                                                                                                                             |       |       |           | <b>Schussler's biochemic remedies</b> (Kalium sulphuricum, Natrum muriaticum) may also be prescribed as per the need of the case. |
| 4.     | <b>Calcareo carbonica</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 5.     | <b>Graphites</b>            |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 6.     | <b>Lycopodium clavatum</b>  |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 7.     | <b>Natrum muriaticum</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 8.     | <b>Petroleum</b>            |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 9.     | <b>Psorinum</b>             |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 10.    | <b>Rhus toxicodendron</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 11.    | <b>Sepia officinalis</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 12.    | <b>Sulphur</b>              |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 13.    | <b>Tellurium metallicum</b> |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |
| 14.    | <b>Tuberculinum</b>         |                                                                                                                                                                                             |       |       |           |                                                                                                                                   |

### Dos and don'ts while taking homoeopathic medicine<sup>32</sup>

Patients taking homoeopathic medicine are advised not to eat, drink, smoke, for at least half an hour before or after taking medication and to avoid emotional stress, strains and excitements. No new habits or addictions should be indulged in while taking the medicine.

### Recommended Diet and Lifestyle<sup>10,17,23,24</sup>

Lifestyle and dietary recommendations for patients suffering from tinea should focus on overall health benefits.

- **Lifestyle changes:** Discouraging sharing of bed linen if feasible, towels and clothes. Regular washing of towels and bed linen. Dusting, wet mopping or vacuuming the house followed by cleaning with detergent so as to reduce the spore load in the immediate environment. Washing clothes and bed linen in hot water and then sunning them. Sunlight is known to destroy dermatophytes. In the absence of sunlight, ironing the clothes would be beneficial too.
- **Dietary changes:** Immune boosting and antifungal foods i.e.; fresh fruits (e.g.; berries, oranges, papaya- rich in vitamin C supports skin repair), leafy greens (spinach, moringa,

kale – rich in antioxidants, zinc, iron), natural antifungal foods (garlic, turmeric, ginger), yogurt /probiotic curd restores gut flora and supports immunity.

### **Restricted Diet & Lifestyle<sup>10,17</sup>**

- Patients should be advised to avoid sharing personal items, such as towels, clothing, or combs, to prevent the spread of tinea corporis.
- Direct contact with infected individuals or animals should be avoided.

**Follow up** (Every 15 days or earlier as per the need).

### **Reviews should include<sup>17</sup>**

- Monitoring the person's symptoms and the ongoing impact of the condition on their everyday activities and quality of life.
- Discussing the person's knowledge of the condition, any concerns they have, their personal preferences, and their ability to access services.
- Reviewing the patient with poor adherence to treatment, reinfection from close contact, drug resistance, misdiagnosis, and infection with uncommon species.
- Reviewing the co-morbidities associated with tinea.

### **Referral Criteria**

- No response at all within 2-3 weeks of treatment done.
- Uncontrolled comorbidities like diabetes mellitus, hypertension etc.
- Evidence of an increase in severity/complications
- Diagnostic uncertainty.
- Substantial impact on their quality of life and activities of daily living.

**At Level 2:** (CHC/Small hospitals, 10-20 bedded hospitals with basic facilities such as routine, investigation, X-ray)

**Clinical Diagnosis:** Same as level 1. The case referred from Level 1, or a fresh case, must be evaluated thoroughly for any complications.

**Investigations:** The diagnosis would be primarily clinical. However, some investigations may be necessary to investigate complications or exclude other differential diagnoses as follows:

- Renal function test.
- Fasting lipids, glucose, and thyroid functions.

**Management:** Same as level 1. The case referred from level 1 or fresh case must be evaluated thoroughly for any complications. For the patients referred from level 1, treatment given in level 1 may be continued if appropriate for the presenting condition or the Case may be reassessed for the totality of symptoms and treatment may be given accordingly.

**Recommended Diet and Lifestyle:** Same as level 1

**Restricted Diet and Lifestyle:** Same as level 1

**Follow up** (every 15 days or earlier as per the need)

### **Referral Criteria**

- Same as mentioned earlier at level 1, plus,
- Nail/scalp involvement, kerion.
- No response to 4-6 weeks of treatment.
- Any other complications that threaten the life of the patient.
- Patients with a weak immune system, such as those suffering from HIV/AIDS

**At Level 3:** Ayush hospitals attached with teaching institutions, District Level/Integrated/ State Ayush Hospitals, Tertiary care allopathic hospitals having Ayush facilities, multiple departments/facilities for diagnosis and interventions. Must provide additional facilities like dieticians, counselling, and physiotherapy unit.

**Clinical Diagnosis:** Same as levels 1 and 2. Confirm diagnosis and severity with the help of investigations such as follows:

- Specimen culture
- Wood light examination
- Dermatophyte test medium
- Histopathology special stains

**Management:** Same as levels 1 & 2. For the patients referred from Level-1 or 2, treatment given in Level-1 &/or 2 may be continued if appropriate for the presenting condition or the case may be reassessed for the totality of symptoms and treatment may be given accordingly.

For new cases at this level, the totality of symptoms presented by the patient is the sole indicative and guide for treating each patient.

In addition to the level 1 and level 2 management strategies, homoeopathy has a number of remedies that can ease pain and other symptoms in patients in those who have not responded to treatment due to a lack of symptoms, co-morbid conditions, or the use of other immune suppressive, oral hypoglycaemic agents, or antihypertensive. Medications can therefore be prescribed based on the sphere of action or keynote symptoms as a part of supportive management in these disorders as well as other advanced pathological states. There are remedies which can be used during acute exacerbation conditions. Some of the remedies which can be considered are given below.

| Sr. No. | Medicines*                  | Dose form*                                                                                                                                                                                  | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                            |
|---------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <b>Chrysarobinum</b>        | *Varies as per the need of the case, depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | Local wash:<br>Calendula Q or<br>Echinacea Q<br><br><b>Schussler's biochemic remedies</b> (Kalium sulphuricum, Natrum muriaticum) may also be prescribed as per the need of the case. |
| 2       | <b>Hydrocotyle asiatica</b> |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |
| 3       | <b>Juglans regia</b>        |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |
| 4       | <b>Kali sulphuricum</b>     |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |
| 5       | <b>Mezereum</b>             |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |
| 6       | <b>Ranunculus bulbosus</b>  |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |
| 7       | <b>Radium bromatum</b>      |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |
| 8       | <b>Vinca minor</b>          |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |
| 9       | <b>Viola tricolor</b>       |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                       |

**Recommended Diet and Lifestyle:** Same as levels 1 & 2

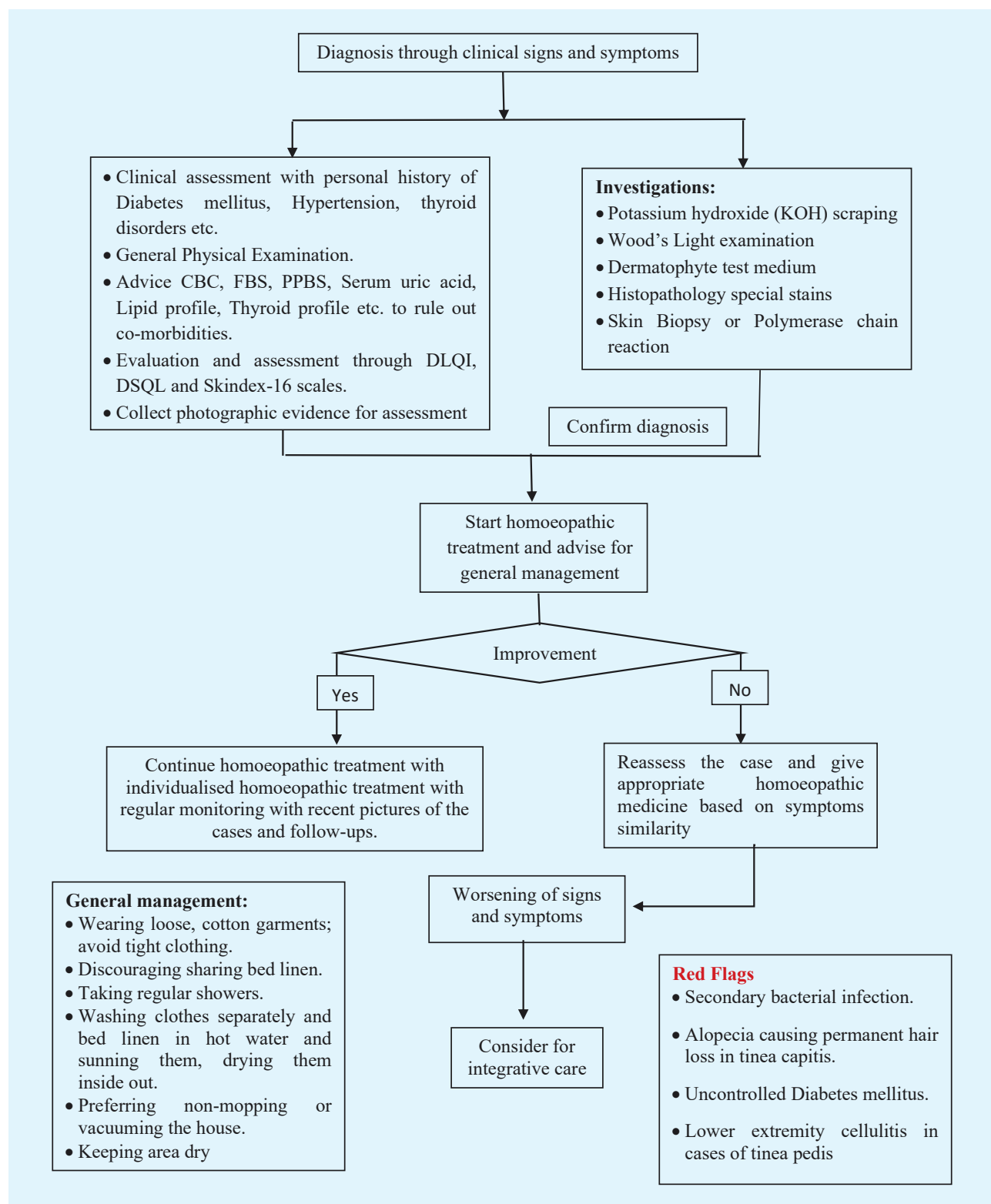
**Restricted Diet and Lifestyle:** Same as levels 1 & 2

**Follow up:** (every 15 days or earlier as per the need)

**Referral Criteria**

- Same as mentioned earlier at level 2, plus.
- Other modalities can be considered depending on the case.

## ALGORITHM OF TREATMENT PROCESS FOR DERMATOPHYTOSIS



Indications of medicines for Tinea: <sup>29,30,31</sup>

| Sr. No. | Medicines                 | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Characteristic particulars                                                                                                                                                                                                                                                                                                                                          |
|---------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Antimonium crudum</b>  | <i>It is pre-eminently a scrofulous remedy. Chilly patient. Thickly coated white tongue, dry lips. Saltish saliva. Slimy mucus. for children and old people with tendency to grow fat.</i><br><i>Excessive irritability and fretfulness. Sentimental mood. Children cannot bear to be touched or looked at.</i><br><i>Desire for acids, pickles. All the conditions are aggravated by heat and cold bathing.</i>                                                            | <ul style="list-style-type: none"> <li>• Pustular eruption with burning and itching, worse at night.</li> <li>• Eruptions which appear chiefly in the evening, or which itch in the heat of the bed, and prevent sleep.</li> <li>• Sensitive to cold bathing.</li> </ul>                                                                                            |
| 2.      | <b>Arsenicum album</b>    | <i>Chilly patient; weak, rapid disproportionate prostration; burning pains better by heat (except headache) increased thirst, drinks often but little at a time; craves milk; cadaveric odour of discharges and body.</i><br><i>Anxiety, restlessness, fretful, wants to be carried, anguish, fear for death and restlessness.</i>                                                                                                                                          | <ul style="list-style-type: none"> <li>• Skin perfectly dry &amp; rough covered with dry scales and scabs.</li> <li>• Burning-itching eruption. Burning pain relieved by heat.</li> <li>• Parts painful after scratching.</li> </ul>                                                                                                                                |
| 3.      | <b>Bacillinum burnett</b> | <i>Used as an intercurrent in chronic cases. Especially suited to ringworm with tubercular tendency.</i>                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Fine white scales, falling of hair in spots in scalp and face, &lt; night, cold air, often used as an intercurrent.</li> </ul>                                                                                                                                                                                             |
| 4.      | <b>Calcareo carbonica</b> | <i>Chilly patient; takes cold easily; fat, fair, flabby with large head, distended abdomen with red face; pale, weak, easily tired; head sweats profusely while sleeping; sour smelling discharges; longing for fresh air.</i><br><i>Slow development of milestones; tendency for lymphatic glandular enlargement; fearful, shy, timid, slow and sluggish.</i><br><i>Desire for eggs and indigestible things; aversion to meat and milk; feels better when constipated.</i> | <ul style="list-style-type: none"> <li>• Unhealthy; readily ulcerating; flaccid.</li> <li>• Small wounds do not heal readily.</li> <li>• Worse, from exertion, mental or physical; ascending; cold in every form; water, washing, moist air, wet weather; during full moon; standing.</li> <li>• Better, dry climate and weather; lying on painful side.</li> </ul> |
| 5.      | <b>Chrysarobinum</b>      | <i>Chronic skin diseases; intense itching. Vesicular and squamous lesions. Used at external application as well.</i>                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Vesicular or squamous lesions, crust formation.</li> <li>• Itching in thighs, legs &amp; ears, ears with foul smelling discharges</li> </ul>                                                                                                                                                                               |

| Sr. No. | Medicines                   | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.      | <b>Graphites</b>            | <p><i>Chilly patient takes cold easily; fatty; pale; tendency to skin affections and constipation; lumpy, thick, hard skin and glands; dislikes sweets.</i></p> <p><i>Cautious, indecisive and lazy; history of delayed menstruation.</i></p> <p><i>Prefer warmth, dread cold air.</i></p>                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Skin inclined to crack.</li> <li>• Fissures deep, bleeding or oozing out a sticky fluid.</li> <li>• Eruptions upon the ears, between fingers and toes and on various parts of body, from which oozes a watery, transparent, sticky fluid.</li> <li>• Warmth of bed &amp; Perspiration aggravates itching.</li> <li>• The nails brittle, crumbling, deformed.</li> </ul> |
| 7.      | <b>Hydrocotyle asiatica</b> | <p><i>Circular scaly eruptions. Focus on cutaneous infections. Very copious perspiration.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Dry eruptions, circular spots with scaly edges, esp. on soles</li> </ul>                                                                                                                                                                                                                                                                                                |
| 8.      | <b>Juglans regia</b>        | <p><i>Skin eruptions are prominent.</i></p> <p><i>Exhaustion and disinclination for the usual business. Intoxicated sensation; as if flying.</i></p>                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Itching and eruptions of small red pustules. Scalp red, and itches violently at night.</li> <li>• Itching eruption over the whole body.</li> </ul>                                                                                                                                                                                                                      |
| 9.      | <b>Kalium sulphuricum</b>   | <p><i>Thin, weak individuals with constantly shifting symptoms.</i></p> <p><i>Often irritable.</i></p> <p><i>Prefer cool open air, dislike warm rooms.</i></p>                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Ring-worm of scalp or beard with abundant scales.</li> <li>• Burning, itching, papular eruption exuding pus-like moisture.</li> </ul>                                                                                                                                                                                                                                   |
| 10.     | <b>Lycopodium clavatum</b>  | <p><i>Hot patient, intellectually keen but physically weak; upper part of body emaciated, lower part semi- dropsical; complexion pale, dirty, sallow with deep furrows; looks old; recurrent respiratory and gastrointestinal affections; tendency for flatulent dyspepsia; worse from 4- 8 pm; right sided complaints or symptoms shift from right to left.</i></p> <p><i>Dominating, cranky, lack of self-confidence, precocious, desires company, shy, fear to be alone.</i></p> <p><i>Desire for warm foods and drinks, sweet.</i></p> | <ul style="list-style-type: none"> <li>• Skin unhealthy.</li> <li>• Ulcers, with callous, red edges, reversed and shining, sometimes with inflammation and swelling of the part affected.</li> </ul>                                                                                                                                                                                                             |
| 11.     | <b>Mezereum</b>             | <p><i>Chilly patient; sensitive to cold air; after effects of vaccination, prone to skin affections; constant longing for food.</i></p> <p><i>Indifference; vexed and angry at trifles but is soon sorry and drawing for it; aggravation while alone.</i></p> <p><i>Craving for fat.</i></p>                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Intolerable itching.</li> <li>• Chilliness with pruritus.</li> <li>• Head covered with thick leather like crusts under which thick and white spot collects.</li> <li>• Worse in bed.</li> <li>• Eruptions after vaccination.</li> <li>• Ulcers with thick yellowish white scabs under which thick, yellow pus collects.</li> </ul>                                      |

| Sr. No. | Medicines                  | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                      |
|---------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12.     | <b>Natrum muriaticum</b>   | <p><i>Hot patient, poorly nourished, great emaciation (marked on neck); losing flesh while living well; craving for salt; aversion to bread and fatty things; constipated; increased thirst; mapped tongue with red insular patches.</i></p> <p><i>Melancholic, sad, plays alone, irritable, cross, cries when spoken to; awkward, hasty, drops things from nervous weakness; disposition to weep without cause, consolation aggravates.</i></p> <p><i>Worse: lying down, talking. Better: open air, going without regular meals, lying on the right side.</i></p> | <ul style="list-style-type: none"> <li>• Skin around nails dry and cracked.</li> <li>• Crusty eruptions in the bends of limbs, margin of scalp, behind ears.</li> <li>• &lt; from eating too much salt, at seashore, or from ocean voyage.</li> </ul>                                                                                                                                           |
| 13.     | <b>Petroleum</b>           | <p><i>Adapted to persons with light hair and skin; Heat and burning of soles of feet and palms of hands; Sweat and moisture of external genitals, both sexes.</i></p> <p><i>Irritable quarrelsome disposition; easily offended at trifles; vexed at everything.</i></p> <p><i>Worse: during a thunderstorm; in winter.</i></p>                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Itching, redness; skin cracked, rough, bleeding; dry or moist.</li> <li>• cracked tips of fingers, fissured</li> <li>• The skin symptoms are worse in winter, better in summer.</li> <li>• All eruption itches violently.</li> <li>• He cannot rest until he scratches the skin off, when the part becomes moist, bloody, raw and inflamed.</li> </ul> |
| 14.     | <b>Psorinum</b>            | <p><i>Extreme sensitiveness to cold. Debility, independent of any organic disease, especially the weakness remaining after acute disease. Lack of reaction, i.e, phagocytes defective; when well-chosen remedies fail to act. Scrofulous patients. Secretions have a filthy smell. Profuse sweating. Often gives immunity from cold-catching.</i></p>                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Intolerable itching</li> <li>• Dry, lustreless, rough hair.</li> <li>• Worse from warmth of bed.</li> <li>• Dirty, dingy look.</li> <li>• Crusty eruptions all over.</li> <li>• In chronic cases when well selected remedy fail to relieve or permanently improve. When Sulphur indicated but fails to act.</li> </ul>                                 |
| 15.     | <b>Ranunculus bulbosus</b> | <p><i>Suited to persons with chest wall complaints and vesicular skin conditions. Sensitive to cold air.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Horny skin, finger tips &amp; palms chapped, &lt; cold air</li> </ul>                                                                                                                                                                                                                                                                                  |
| 16.     | <b>Rhus toxicodendron</b>  | <p><i>Chilly patient; sore, body bruised and stiff; restless, can't rest in any position; red triangular tip of tongue; unquenchable thirst.</i></p> <p><i>Great apprehension at night, sad, anxious; weeping without knowing why.</i></p> <p><i>Desire for cold milk; worse in damp, cold, rainy weather, during rest and sleep, better by continued motion.</i></p>                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Skin red, swollen with intense itching.</li> <li>• Itching all over, worse on hairy parts.</li> <li>• Better by warm, dry weather, change of position, rubbing, warm applications.</li> </ul>                                                                                                                                                          |

| Sr. No. | Medicines                   | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Characteristic particulars                                                                                                                                                                                                                                                                                                   |
|---------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17.     | <b>Radium bromatum</b>      | <i>Chronic eczema with burning, itching. Suited to sensitive constitutions.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Itching, burning, as on fire, itching face and genitalia, branny scabs</li> </ul>                                                                                                                                                                                                     |
| 18.     | <b>Sepia officinalis</b>    | <p><i>Chilly patient; tall, thin built with yellow saddle across upper part of cheeks and nose, big belly; dry flabby skin. Predisposed to take cold at change of weather.</i></p> <p><i>Cheerful, active when well but indifferent and quarrelsome when sick; self absorbed, sad, weeping and indolent.</i></p> <p><i>Desire for sour food which aggravates.</i></p>                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Itching of skin; of various parts; of external genitalia; is not &gt; by scratching and is apt to change to burning.</li> <li>Ringworm-like eruption every spring.</li> <li>Isolated spots on upper part of body</li> </ul>                                                           |
| 19.     | <b>Sulphur</b>              | <p><i>Hot patient, kicks off the cloth at night; dirty, filthy, does not want to be washed; lean, thin, stoop-shouldered; child who walks and sit stooping; prone to skin affections, venous congestions; have a very weak and faint feeling about 11 a.m. and must have something to eat; have burning heat on palms and soles especially at night, red orifices; when the best selected remedy fails to improve.</i></p> <p><i>Restless, quick tempered.</i></p> <p><i>Desires sweets, sugar, meat. Worse from standing, at night</i></p> | <ul style="list-style-type: none"> <li>Skin: itching, voluptuous; scratching &gt; “feels good to scratch (voluptuous itching)”.</li> <li>Scratching causes burning; &lt; from heat of bed, washing, at night.</li> <li>History of suppression by ointment.</li> </ul>                                                        |
| 20.     | <b>Tellurium metallicum</b> | <p><i>Odour of body and sweat offensive and garlic like, discharges are acrid, excites itching, vesicates any part of skin it touches.</i></p> <p><i>Nervous, sensitive individuals, tired easily.</i></p> <p><i>Cravings for – apples.</i></p>                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Itching of hands and feet, ringworm worse on lower extremities, barber’s itch</li> <li>Intersecting rings of eruptions</li> </ul>                                                                                                                                                     |
| 21.     | <b>Tuberculinum</b>         | <p><i>Takes cold easily; tall, lean, thin, narrow-chested; active and precocious mentally but weak physically; emaciated with good appetite; family/ personal history of tuberculosis; changeability of symptoms.</i></p> <p><i>Obstinate and disobedient children; irritable, fretful, desire to use foul language; discontented, fear of dogs..</i></p>                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Itching intense; worse at night, when undressing, bathing</li> <li>Oozing behind ears, folds of skin with rawness and soreness</li> <li>Worse, motion, music; before a storm; standing; dampness; from draught; early morning, and after sleep.</li> <li>Better, open air.</li> </ul> |

| Sr. No. | Medicines             | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Characteristic particulars                                                                                                                                                                                                 |
|---------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22.     | <b>Vinca minor</b>    | <p><i>A remedy for skin affections, eczema, and especially plica polonica. Weakness and prostration accompanied many of the sufferings; Weakness as if he would die. Emptiness or hungry feeling.</i></p> <p><i>Tremulous feeling: in all the vessels; in upper extremities, with tendency to start, especially on exerting the mind. Sadness with fear of death. Lachrymose. Peevish and quarrelsome, soon followed by repentance.</i></p> <p><i>Most symptoms &gt; moving about in open air.</i></p> | <ul style="list-style-type: none"> <li>• Corrosive itching.</li> <li>• Great sensitiveness of skin, with redness and soreness from slight rubbing.</li> <li>• Itching moist spots on upper part of right ankle.</li> </ul> |
| 23.     | <b>Viola tricolor</b> | <p><i>Suits scrofulous, weak children who are restless at night, pass large quantities of urine with strong odour like cat's urine. Skin eruptions in children.</i></p> <p><i>Nervous, irritable temperaments.</i></p>                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Eruptions over face &amp; head with burning, itching, worse at night, winter, cold air</li> </ul>                                                                                 |

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# 03

## PSORIASIS





# PSORIASIS

[ICD 10 code: L40]

[ICD 11 Code: EA90]

## CASE DEFINITION<sup>1,2</sup>

Psoriasis is a common, chronic, inflammatory and proliferative condition of the skin, may be associated with systemic manifestations in many organ systems. The most characteristic lesions are red, scaly, sharply demarcated, indurated plaques, particularly over the extensor surfaces and scalp. It can cause itching, irritation, burning and stinging, and the extent and severity vary enormously over time and between individuals.

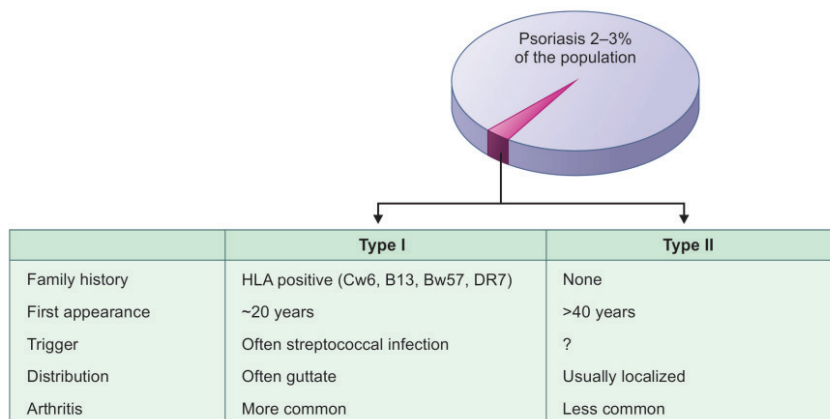
## INTRODUCTION (*incidence/prevalence, morbidity/mortality/risk factors*)<sup>1,3-9</sup>

- Psoriasis vulgaris is a chronic, non-communicable, disfiguring, and disabling disease with negative impact of varied degree on a patient's quality of life (QoL).
- It affects males and females equally. About 2–3% of the population have psoriasis and 10% of these individuals will develop psoriatic arthritis. Of this group, in 3–5% of them, it is severe<sup>5</sup>
- According to the World Health Organization, approximately 0.09% - 11.43% (incidence, 46,22,594, prevalence 4,08,05,386) of the global population suffers from psoriasis.
- In India, the prevalence of this illness varies from 0.44 to 2.8%; both sexes affected equally with few studies showing male predominance and most of the patients are in their third or fourth decade at the time of presentation.
- The lifetime risk of developing the disease is strongly associated with a family history; if no parent has psoriasis, the risk is 4%; if one parent has psoriasis, the risk is 14-28% and if both parents have psoriasis, the risk is 40-65%.

## PATHOGENESIS AND ITS THERAPUETIC IMPLICATIONS<sup>5</sup>

### 1. Genetics:

There are two peaks of onset of psoriasis (Fig.). Type I has onset in the second and third decades and a more common family history of psoriasis. Type II has onset in late adulthood in patients without obvious family history.



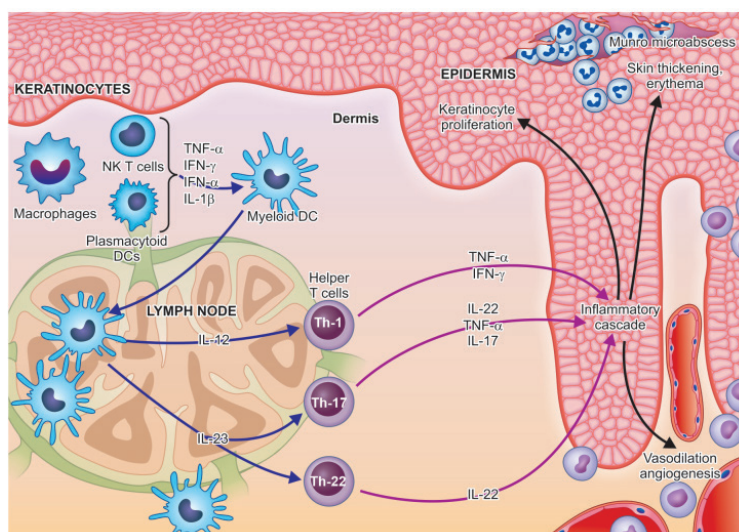
## 2. Hyperproliferation

The growth fraction of the upper layer of skin known as the epidermis is increased with the basal cell being increased 7x compared with normal skin. The cell turnover time decreases from 30 to 5 days, similarly the cell cycle time reduces from 311 to 36 hours.

## 3. Inflammation

Psoriasis is now known to be a autoimmune disorder with a important role of CD4T cells with Th17 and Th 12 cells playing a important role.<sup>8</sup> Notably these cells are determined by cytokines that are the target of novel drugs known as biologic which have changed the therapeutic of psoriasis.<sup>9</sup>[ fig] Psoriatic keratinocytes contain high levels of antimicrobial peptides which may account for the surprisingly low incidence of bacterial skin infection.

4. Psoriasis is also now appreciated to be an intimate part of the metabolic syndrome, associated with hypertension, diabetes mellitus, and coronary artery disease.



- Fig - A depiction of the major T cell subtypes and cytokines that determine Psoriasis. Drugs that inhibit these cytokines are available and are known as Biologics

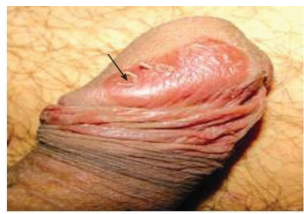
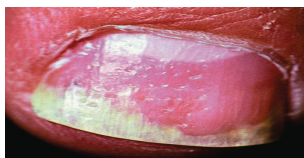
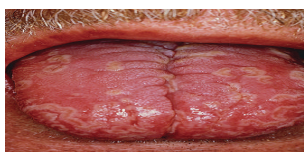
## CLINICAL PRESENTATION <sup>1,10-15</sup>

Psoriasis has several clinical variants that differ in severity, location, longevity, shape, cause and pattern. The course of the disease is marked by exacerbations and remissions usually gets worse in winters. Patients may experience more than one type of Psoriasis at the same time. The different types of psoriasis are fairly distinct and are listed below.

| Types of Psoriasis                                                          | Description                                                                                                                                                                            | Figure |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Clinical forms of psoriasis (based on morphology or natural history)</b> |                                                                                                                                                                                        |        |
| <b>Plaque Psoriasis</b>                                                     | <ul style="list-style-type: none"> <li>The most common form of Psoriasis.</li> <li>The most common sites are the scalp, trunk, buttocks and extensor surfaces of the limbs.</li> </ul> |        |

| Types of Psoriasis                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Figure                                                                                |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                               | <ul style="list-style-type: none"> <li>It presents as well-defined, with silvery white scales varying in size from 1cm to several centimetres.</li> <li>In the active phase of disease, the skin lesions develop along the lines of scratch or sites of trauma (Koebner's phenomenon)</li> </ul>                                                                                                                                                                                                                                                                                  |                                                                                       |
| <b>Guttate psoriasis</b>                                                      | <ul style="list-style-type: none"> <li>Sudden onset of a shower of small lesions from 2 or 3mm to 1cm in diameter, round or slightly oval, appearing diffusely over the body.</li> <li>Most commonly seen in children and young adults, it frequently follows several weeks after pharyngitis caused by group A beta-hemolytic streptococci</li> </ul>                                                                                                                                                                                                                            |    |
| <b>Unstable psoriasis (Active psoriasis, eruptive inflammatory psoriasis)</b> | <ul style="list-style-type: none"> <li>There is marked activity in the form of enlargement of plaques and an increase in erythematous areas and development of many new, smaller plaques with complaints of severe pain or pruritus.</li> <li>The precipitating factors are systemic or potent topical corticosteroid withdrawal</li> </ul>                                                                                                                                                                                                                                       |   |
| <b>Erythrodermic psoriasis</b>                                                | <ul style="list-style-type: none"> <li>It is uncommon only in 1-2 % of patients are affected involving more than 90% of body surface area by psoriasis lesions with febrile, dependent oedema, severe itching, and redness with varying degrees of scales.</li> <li>Environmental or therapeutic triggers, including systemic illness, alcoholism, antimalarials, irritating topical treatments, UV radiation or withdrawal of systemic corticosteroids, cyclosporine, often precipitate the acute form.</li> </ul>                                                               |  |
| <b>Pustular psoriasis</b>                                                     | <ul style="list-style-type: none"> <li>The acute generalized pustular psoriasis (von Zumbusch) presented with recurrent episodes of fever with general malaise, multiple isolated sterile pustules, laboratory abnormalities (leucocytosis, elevated ESR or C-reactive protein, confirmed by Kogoj's spongiform pustules on histopathology).</li> <li>Palmoplantar pustulosis presents one or more well-defined plaques symmetrically on palms and soles, with dusky red, scaly and fissured. Numerous pustules are present within plaques, usually 2-5 mm in diameter</li> </ul> |  |

| Types of Psoriasis                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                 | Figure                                                                                |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Atypical forms of psoriasis<sup>14</sup></b>                          | <ul style="list-style-type: none"> <li>Rupioid psoriasis is presented as limpet-like, cone-shaped lesions.</li> <li>Elephantine psoriasis has unusual presentations, such as persistent, thick scaling, large plaques on the back, limbs, hips, or elsewhere.</li> <li>Ostraceous psoriasis is a ring-like hyperkeratotic lesion with a concave surface resembling an oyster shell.</li> </ul>                              |    |
| <b>Other specified forms of psoriasis (based on age or precipitants)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                       |
| <b>Linear and segmental psoriasis</b>                                    | <ul style="list-style-type: none"> <li>The linear or segmented psoriasis lesions are unilateral or Blaschko linear, and an extremely unusual presentation is seen at a young age.</li> </ul>                                                                                                                                                                                                                                |    |
| <b>Psoriasis in childhood and old age</b>                                | <ul style="list-style-type: none"> <li>It is common in children with a cumulative prevalence of up to 18 years, mostly associated with obesity and diabetes.</li> <li>Under the age of 2 years, Napkin psoriasis is the most common presentation, characterised by well-defined erythema devoid of scales.</li> <li>In old age groups after the age of 65 years, plaque psoriasis is commonly seen on the scalp.</li> </ul> |   |
| <b>Drug-induced or exacerbated Psoriasis</b>                             | <ul style="list-style-type: none"> <li>Drugs such as commonly beta blockers, lithium, synthetic antimalarials, non-steroidal anti-inflammatory drugs (NSAIDS), Tetracycline, less commonly ACE inhibitors, interferon and antifungals may induce or exacerbate the psoriasis.</li> </ul>                                                                                                                                    |  |
| <b>Photo-aggravated psoriasis</b>                                        | <ul style="list-style-type: none"> <li>Especially in women, exposure to sunlight may exacerbate psoriasis in sun-exposed areas.</li> </ul>                                                                                                                                                                                                                                                                                  |  |
| <b>HIV- induced or exacerbated psoriasis</b>                             | <ul style="list-style-type: none"> <li>Psoriasis may be the first presentation of HIV infection, as may the deterioration in a previously stable disease. Furthermore, there is a strong association between severe psoriasis, psoriatic arthropathy and HIV infection.</li> <li>The most common variety is the Plaque psoriasis; sebopsoriasis, rupioid psoriasis and erythrodermic psoriasis are less common.</li> </ul>  |  |
| <b>Psoriasis affecting specific sites</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                       |

| Types of Psoriasis                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                | Figure                                                                                |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Scalp psoriasis</b>                            | <ul style="list-style-type: none"> <li>The commonest area affected by plaque psoriasis is often the site first affected, and multiple discrete plaques of varying sizes diffusely involve the whole scalp.</li> <li>Presented as dandruff-like flaking and silvery-white scale, with severe itching leading to burning sensation or soreness and bleeding.</li> </ul>                                                                      |    |
| <b>Sebopsoriasis<sup>15</sup></b>                 | <ul style="list-style-type: none"> <li>Plaques of thin, sharply demarcated erythema with variable scales may occur in the typical areas of seborrhoea, like paranasal areas, external ears, medial eyebrows, hairline, preternal, and interscapular chest wall.</li> </ul>                                                                                                                                                                 |    |
| <b>Flexural psoriasis (Inverse psoriasis)</b>     | <ul style="list-style-type: none"> <li>Flexor psoriasis is often seen in individuals with plaque psoriasis elsewhere on the skin</li> <li>Most common sites- axilla, submammary folds, umbilicus, inguinal creases, and other body folds- are commonly seen in older adults and are associated with obesity</li> </ul>                                                                                                                     |    |
| <b>Genital psoriasis</b>                          | <ul style="list-style-type: none"> <li>In males, the most commonly seen in the glans penis, followed by scrotal skin and penile shaft, associated with inverse or plaque psoriasis.</li> <li>In females, most commonly seen vulval involvement presented with symmetrical, erythematous, non-scaly, well-demarcated thin plaques affecting the labia majora with severe itching.</li> </ul>                                                |   |
| <b>Nail psoriasis (psoriatic onychodystrophy)</b> | <ul style="list-style-type: none"> <li>Nail dystrophy may be seen in all types of psoriasis or occasionally as an isolated feature presented in 40 % of cases at any time, and the lifetime prevalence is significantly higher.</li> <li>Nail changes includes pitting, separation of nail plate from nail bed appearing as yellowish discolored nails (onycholysis) and thickened, irregular, brownish nails (onychodystrophy)</li> </ul> |  |
| <b>Mucosal lesions</b>                            | <ul style="list-style-type: none"> <li>Mucosal involvement is infrequent but presents as a geographical tongue (benign migratory glossitis) and fissured tongue.</li> </ul>                                                                                                                                                                                                                                                                |  |
| <b>Non-pustular palmoplantar psoriasis</b>        | <ul style="list-style-type: none"> <li>Commonly seen on palms and soles, presented as typical scaly patches with fine silvery scales, can be evoked on scratching. However, on the wrist, forearm or palm, there is a clear edge without vesiculation</li> </ul>                                                                                                                                                                           |  |

| Types of Psoriasis                    | Description                                                                                                                                                                                                                                                                                                                                                                            | Figure                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Ocular lesions</b>                 | <ul style="list-style-type: none"> <li>Psoriasis may affect ocular structure directly or indirectly and is associated with immunological phenomena.</li> <li>Directly affected by blepharitis, chronic nonspecific conjunctivitis, xerosis, and rarely keratitis.</li> <li>Immunologically affected uveitis is associated with extensive psoriasis and psoriatic arthritis.</li> </ul> |  |
| <b>EXTRA-CUTANEOUS MANIFESTATIONS</b> |                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                     |
| <b>Psoriatic arthritis</b>            | <ul style="list-style-type: none"> <li>There can be involvement of joints of hands and feet especially distal interphalangeal joints.</li> <li>In some cases, spondylitis or sacro-iliitis can also be seen. The arthritis can be deforming at times.</li> </ul>                                                                                                                       |  |

## CLINICAL EXAMINATION<sup>15</sup>

Psoriasis is mostly diagnosed on the basis of clinical examination of the skin, scalp and nails along with review of patients smoking history, medical history and family history. The characteristic skin lesions are sharply demarcated, scaly, erythematous raised plaques, either painful or itching red patches covered with silvery scales. The lesions vary in shape and may be ovoid, round, or irregular and are often symmetrically distributed. Common areas of involvement include extensor surface of body, elbows, knees, scalp, trunk, lumbosacral region and nails. A skin biopsy needed in some cases to confirm the diagnosis and to rule out other diseases.

## DIFFERENTIAL DIAGNOSIS<sup>1,15-18</sup>

| Psoriasis Subtype       | Differential Diagnosis                        | Characteristic and Diagnostic Features                                                                                                                                                                                                                                                          |
|-------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plaque psoriasis</b> |                                               | Well-defined, sharply demarcated, erythematous plaques with a thin, silvery-white scale; tend to be symmetrically distributed over the body. There is predilection for extensor surfaces of the body like elbows, knees, scalp, back, buttocks, etc.                                            |
|                         | <b>Eczema</b>                                 | Erythematous papules/plaques lacking a silvery scale; can be vesicular or weeping; chronic lesions can be lichenified/hyperkeratotic.<br><br>Predilection for flexural surfaces; more pruritic than psoriasis; does not koebnerize; personal or family history of asthma, hay fever, allergies. |
|                         | <b>Dermatophyte infection</b>                 | Solitary/many erythematous lesions with central clearing and peripheral scale; Potassium hydroxide preparation, fungal culture, and rarely, skin biopsy confirm diagnosis.                                                                                                                      |
|                         | <b>Subacute cutaneous lupus erythematosus</b> | Photo-distributed psoriasiform lesions.<br><br>Skin biopsy and laboratory tests confirm the diagnosis.                                                                                                                                                                                          |

| Psoriasis Subtype              | Differential Diagnosis             | Characteristic and Diagnostic Features                                                                                                                                                                                                                                                                                    |
|--------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | <b>Lichen planus</b>               | Typically, pruritic, violaceous papules with frequent mucosal involvement.                                                                                                                                                                                                                                                |
|                                | <b>Atopic dermatitis</b>           | Three distinct patterns of AD, depending on the age of the patient. Intensely itchy, lichenified plaques.                                                                                                                                                                                                                 |
| <b>Guttate psoriasis</b>       |                                    | Small “droplet” lesions of short duration (weeks to months); palms and soles spared. Occurs in <2% of patients with psoriasis, usually affects those aged younger than 30 years; may have an antecedent upper respiratory infection.                                                                                      |
|                                | <b>Secondary syphilis</b>          | Generalized erythematous psoriasiform papules with collarette scale; palms and soles affected; associated with nonscarring alopecia, lymphadenopathy, systemic symptoms (malaise, fever, headache, myalgias). Chancre may still be evident in early stages of secondary syphilis; rapid plasma regain confirms diagnosis. |
|                                | <b>Pityriasis rosea</b>            | 1–2 weeks after a vague “viral” episode.<br><br>A single patch appears on the trunk, followed by smaller lesions along skin cleavage lines. Usually self-limiting and does not usually recur; associated with Herpesvirus 6; epidemics occur in spring and fall.                                                          |
| <b>Erythrodermic psoriasis</b> |                                    | Severely disabling Diffuse erythema >75% body surface area with or without exfoliation; superficial desquamation, hair loss, nail dystrophy.                                                                                                                                                                              |
|                                | <b>Pityriasis rubra pilaris</b>    | Orange-red plaques start on the head and spread caudally; small areas of spared skin are frequently present; yellowish thickening of palms and soles; nail changes similar to psoriasis. Skin biopsy confirms diagnosis.                                                                                                  |
|                                | <b>Drug eruptions</b>              | Generalized erythroderma develops approximately 7–10 days after the initiation of a new drug. Skin biopsy confirms diagnosis; eosinophilia is suggestive of a drug eruption.                                                                                                                                              |
| <b>Pustular psoriasis</b>      |                                    | Individual/coalescing sterile pustules that occur either in an acute, generalized fashion or are localized to palms and soles. Usually affects aged >65 y; >25% of patients have a positive family history.                                                                                                               |
|                                | <b>Irritant dermatitis</b>         | Irritant dermatitis is most frequently caused by occupational exposure, either as an industrial contact or as a household contact. Clinical features, ranging from a little dryness, redness or chapping to various types of eczematous dermatitis to an acute caustic burn.                                              |
|                                | <b>Folliculitis</b>                | Dome-shaped follicular pustules. Pseudofolliculitis seen in the beard area (after shaving), thighs, and arms (after epilation by waxing).                                                                                                                                                                                 |
|                                | <b>Allergic contact dermatitis</b> | Develops due to involvement of immunological pathway, being a type IV (delayed hypersensitivity) reaction to exogenous contact antigens. Progresses from erythema to oedema to papulovesiculation.                                                                                                                        |
| <b>Inverse psoriasis</b>       |                                    | Well-demarcated, erythematous lesions with minimal scaling. Affects intertriginous Areas.                                                                                                                                                                                                                                 |
|                                | <b>Intertrigo</b>                  | Moist, erythematous lesions of intertriginous areas, caused by mechanical factors or secondary infection; difficult to distinguish from inverse psoriasis                                                                                                                                                                 |

| Psoriasis Subtype | Differential Diagnosis           | Characteristic and Diagnostic Features                                                                                                                                                                                                                                         |
|-------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | <b>Cutaneous T-cell lymphoma</b> | Erythematous patches/plaques of intertriginous areas. Skin biopsy of the thickest, untreated. A lesion with minimal sun exposure confirms the diagnosis.                                                                                                                       |
|                   | <b>Tinea cruris (Jock itch)</b>  | Caused by dermatophytes, presented with severe itching, red, well-defined scales and cracked rash in groin folds, inner thigh and rarely around the anus, less often with musty or yeasty odour from the area. The KoH test and culture will confirm the diagnosis.            |
|                   | <b>Tinea corporis</b>            | Annular/arcuate lesions with relative clearing in the center and an active periphery. Infection of the glabrous skin anywhere on the body, except palms, soles, and groins.                                                                                                    |
|                   | <b>Candidiasis</b>               | Resembles like psoriasis with glistening deep red colour lesions, particularly in flexor areas, but scaling tends to be confined to the edge, and small satellite pustules and papules are usually evident outside the main area. The culture test will confirm the diagnosis. |
|                   | <b>Seborrheic dermatitis</b>     | The lesions are lighter in colour, less well-defined and covered with a dull or branny scale.<br>The most common sites are on the scalp, lateral sides of eyebrows, ear, nasolabial folds, and the upper part of the chest and back.                                           |
|                   | <b>Nummular dermatitis</b>       | History: of atopic diathesis, Morphology: discoid plaques, Common site: acral parts.                                                                                                                                                                                           |

## SUPPORTIVE INVESTIGATIONS <sup>1</sup>

- Diagnosing psoriasis is typically based on clinical presentation
- A skin biopsy will be helpful in atypical cases.
- In generalized pustular psoriasis, high sensitivity C-reactive protein may be mildly elevated, but higher levels are seen in psoriatic arthritis.
- Blood tests like CBC (Complete Blood Count), KFT (Kidney Function Test), LFT (Liver Function Test), HLA B27 (Human Leukocyte Antigen B27), Uric acid levels, Human Immunodeficiency Virus, Rheumatoid factor, X-ray and Antinuclear antibodies, tests for specific infections like streptococcal and staphylococcal antibodies can help differentiate psoriasis from other conditions with similar symptoms.
- KOH preparation should be done to rule out fungal infection (Tinea etc) in cases of psoriasis of hands, feet, and nails.

## Tests for diagnosis <sup>15,16</sup>

| TEST                    | DESCRIPTION                                                                                                                                                                                                                                  |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1) Bedside tests</b> | Two simple bedside tests were done to confirm the diagnosis.                                                                                                                                                                                 |
| <b>a) Grattage test</b> | This is positive when scales are accentuated by grating lesions with a glass slide.                                                                                                                                                          |
| <b>b) Auspitz sign</b>  | When gently scraping off all the scales from lesions with a glass slide, a glistening white adherent membrane (Berkley's membrane) appears. Once this membrane is removed, punctate bleeding points become visible. (positive Auspitz sign). |

| TEST                  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2) Skin biopsy</b> | Skin biopsy (done in doubtful cases) shows epidermis and dermal changes. Epidermal changes include parakeratosis, absent granular layer, regular acanthosis, suprapapillary thinning, elongation of rete ridges and collection of neutrophils in the epidermis (spongiform pustule of Kogoj and Munro's microabscess). Dermal changes: dilatation and tortuosity of capillary loops in dermal papillae, and lymphocyte infiltrates in the upper dermis. |

### Classification of severity and prognostic assessment

- **Psoriasis area severity index (PASI) score** <sup>19</sup>

The PASI is a widely used instrument in psoriasis trials that assesses and grades the severity of psoriatic lesions and the patient's response to treatment. It produces a numeric score ranging from 0 to 72. A %75 reduction in the PASI score (PASI 75) is the current benchmark for most clinical trials in psoriasis.

- **Nail psoriasis severity index.** <sup>20</sup>

This scale is used to evaluate the severity of nail bed psoriasis and nail matrix psoriasis by area of involvement in the nail unit. The NAPS will be useful during clinical trials for evaluating response to treatment of psoriatic nails.

## PRINCIPLES OF MANAGEMENT

The principles of management include assessment of signs and symptoms before initiating treatment and the need for management through conventional treatment for associated co-morbidities. If the patient is already under standard conventional care, the physician may advice to continue the same along with add-on homoeopathy and can assess/consider for tapering or discontinue the treatment in consultation with the conventional physician in the follow ups. Must check about the intake of drugs that can trigger or exaggerate psoriasis in the history of the patient.

### Red flag signs <sup>13,21,22</sup>

These signs should be assessed before initiating treatment for need for management through modern medicine.

- Patients with generalized pustular psoriasis or erythrodermic psoriasis with high grade fever.
- Psoriatic arthritis significantly impacting a person's physical, psychological or social well-being.
- Psoriasis with co morbid disorders.

### (A) Prevention management<sup>23</sup>

- Advice to avoid smoking, excessive alcohol intake, maintain a healthy weight and regular practice of Yoga.
- Advice on the benefits of sun exposure, as the beneficial effects of dietary vitamin D intake have shown a correlation with improvement in psoriasis.
- Advice to apply moisturizing creams or olive/coconut oil, as and when required, for dryness, itching, scaling.

- If possible, encourage the patients to identify any avoidable trigger factors and avoid the same if possible and develop coping strategies for flare-ups like: Immediate use of prescribed topical treatments; Cold compresses to soothe itching; Temporary lifestyle adjustments (e.g., wearing loose cotton clothing, avoiding hot showers).
- A substitute salt to be considered in consultation with concerned physician in cases where a drug/medication is identified to be a trigger or exacerbating factor.

**Yoga:**<sup>24</sup> Various yoga practices may be helpful in the management of psoriasis, such as Shavasana (Corpse Pose), Bhujangasana (Cobra pose), Setu Bandhasana (Bridge Pose), Trikonasana (Triangle Pose), Balasana (Child's Pose). Certain Pranayam and meditation techniques like such as sitali, seetkari, nadisuddhi, Anulom Vilom (Alternate Nostril Breathing), Bhramari (Humming Bee Breath), and Kapalabhati (Skull Shining Breath) and Yoga Nidra will also help in reducing anxiety, emotional stress, cellular healing, reducing stress-related inflammation and promoting a positive mental state.

## B. INTERVENTIONS

**At Level 1:** Solo physician clinic/health clinic/PHC (Optimal standard of treatment where technology and resources are limited).

**Clinical Diagnosis:** Psoriasis is entirely diagnosed clinically with thorough medical history and physical examination, including BMI. However, some investigations, such as complete hemogram, urine routine/microscopic, C-reactive protein, fasting blood sugar, postprandial blood sugar levels, \*KOH to rule out fungal infection (Tinea) and serum uric acid levels can be advised.

**Management** <sup>10,22, (25-34).</sup>

Every patient with psoriasis presents an individual problem. Research studies and case reports showed the effectiveness of homoeopathy through individualized homoeopathic medicine. Treating chronic skin diseases with homoeopathic remedies appears safer and more satisfactory to the patient, along with improving quality of life and general health. High Potencies can be curative and prevent further recurrence. The importance of talking to patients and addressing their concerns, coupled with advice on overcoming negative beliefs about their disease, cannot be underestimated.

- Educate the patients on psoriasis, its symptoms, and the course of the disease.
- Emphasize to patients that psoriasis is chronic, and relapses and remissions are common
- Assure the patient and the patient's family that psoriasis is not contagious.
- Refer to a dermatologist or expert if the disease is severe.

Flow-diagram for management is given at annexure I.

Some of the commonly prescribed medicines are as follows (indications of medicines is placed at annexure II):

| Sr. No. | Drugs*                     | Dose form*                                                                                                                                                                                  | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                                                                  |
|---------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Arsenicum album</b>     | *Varies as per the need of the case, depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | Chrysorbinum ointment.<br>Hydrocotyle Q.<br><br><b>Schussler's biochemic remedies</b><br>(Calcarea fluorica, Kalium muriaticum, Kalium phosphoricum, Natrum muriaticum) may also be prescribed as per the need of the case. |
| 2.      | <b>Baryta Carbonica</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 3.      | <b>Baryta muriatica</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 4.      | <b>Carcinosinum</b>        |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 5.      | <b>Calcarea carbonica</b>  |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 6.      | <b>Fluoricum acidum</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 7.      | <b>Graphites</b>           |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 8.      | <b>Kalium sulphurica</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 9.      | <b>Lachesis mutus</b>      |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 10.     | <b>Lycopodium clavatum</b> |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 11.     | <b>Mercurius solubilis</b> |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 12.     | <b>Natrum muriaticum</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 13.     | <b>Nitricum acidum</b>     |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 14.     | <b>Nux vomica</b>          |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 15.     | <b>Petroleum</b>           |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 16.     | <b>Phosphorus</b>          |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 17.     | <b>Psorinum</b>            |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 18.     | <b>Sepia officinalis</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 19.     | <b>Silicea terra</b>       |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 20.     | <b>Staphysagria</b>        |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 21.     | <b>Sulphur</b>             |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |
| 22.     | <b>Thyroidinum</b>         |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                             |

### Dos and don'ts while taking homoeopathic medicine <sup>35</sup>

Patients taking homoeopathic medicine are advised not to eat, drink, smoke, for at least half an hour before or after taking medication and to avoid emotional stress, strains and excitements. No new habits or addictions should be indulged in while taking the medicine.

### Other procedures:

Adequate rest for the affected joint can help manage a psoriatic arthritis flare. Elevating the joint and applying an ice pack may effectively reduce pain and swelling.

### Recommended Diet and Lifestyle <sup>13,14,24,36-38</sup>

Lifestyle and dietary recommendations for psoriatic patients should consider overall health benefits and risks since psoriasis is often associated with metabolic syndrome and an increased future risk of cardiovascular disease (CVD) and mortality. Some of the measures are:

- **Exercise:** In apparently healthy, vigorously active men, preventing weight gain by promoting vigorous physical activity may help reduce co-morbidity complications.
- **Yoga:** Exercises such as Shavasana (Corpse Pose), Bhujangasana (Cobra pose), Setu Bandhasana (Bridge Pose), Trikonasana (Triangle Pose), Balasana (Child's Pose). Yoga Nidra: Enhances deep relaxation and cellular healing, reducing stress-related inflammation.
- **Diet:** A diet that is appropriately selected and consistently followed by the patient can have a positive impact not only on the course of psoriasis and the prognosis but also on co-morbidities. The illness known as psoriasis is immune-mediated. This indicates that an overactive immune system is the source of the inflammation. The diet for psoriasis patients should be varied and tailored to each patient. Thus, a diet low in inflammation might be beneficial. Large amounts of vegetables and fruits are a rich source of antioxidants, vitamins, high fibre, nuts, and omega-3 fatty acids, which are advisable in psoriatic patients. Sometimes, a gluten-free diet and vitamin D supplements should be advised according to the patients' conditions.

### **Restricted diet and lifestyle**

- Avoid saturated fatty foods, as they may increase the inflammation of adipose tissue and the risk of type 2 diabetes, heart disease and other chronic conditions.
- Avoid excess salt, sugar, alcohol, smoking, sedentary lifestyles, animal fats, red meat and highly processed food.
- Avoid stress.

### **Follow up (every 15 days or earlier as per the need) <sup>39,40</sup>**

#### **Reviews should include:**

- Monitoring the person's symptoms and the ongoing impact of the condition on their everyday activities and quality of life.
- Monitoring the long-term course of the condition.
- Discuss the person's knowledge of the condition, concerns, personal preferences, and ability to access services.
- Reviewing the effectiveness and tolerability of all treatments.
- Reviewing the co-morbidities associated with psoriasis.

#### **Referral criteria:**

- A PASI score of 5 to 10 is considered moderate disease, and a score more than 10 is considered severe with substantial impact of quality of life and daily living.<sup>19</sup>
- Generalized pustular psoriasis or erythrodermic psoriasis patients are referred to a higher centre for specific management.
- Uncontrolled co-morbidities
- Evidence of an increase in severity/complications
- Diagnostic uncertainty

**At Level 2-** CHC/Small hospitals (10-20 bedded hospitals with basic facilities such as routine, investigation, X-ray)

**Clinical Diagnosis:** Same as level 1. The case referred from Level 1, or a fresh case, must be evaluated thoroughly for any complications.

**Investigations:** The diagnosis would be primarily clinical, along with some investigations which will be necessary to investigate complications or exclude other differential diagnosis as follows:

- Complete blood count/ESR
- Renal function Test, liver function test
- Fasting lipids, glucose, and thyroid functions
- Complete urine examination
- High sensitivity C-reactive protein
- Serum electrolytes
- X-ray of affected Joints (Psoriatic arthritis)
- Tests for Biologics is referred to a specialised tertiary level center

**Management:** Same as level 1. For the patients referred from Level-1, treatment given in Level-1 may be continued if appropriate for the presenting condition, or the case may be reassessed for the totality of symptoms, and treatment may be given accordingly. For new cases at this level, the medications mentioned for Level-1 may also be considered; however, the totality of symptoms presented by the patient is the sole indicative guide for treating each patient.

**Recommended Diet and Lifestyle:** Same as Level 1

**Restricted Diet and Lifestyle:** Same as level 1

**Follow up** (every 15 days or earlier as per the need)

#### **Referral Criteria**

- Same as mentioned earlier at level 1, plus
- Failure of acute exacerbation to respond to initial medical management.
- In erythrodermic patients with generalized pustular psoriasis, patients with febrile and unstable vitals or secondary infections.
- Cases with prominent joint damage and marked functional impairment.
- Uncontrolled complications such as Cardiovascular disease, Cancer, HIV, metabolic syndrome, psychiatric illness or hyperuricaemia.
- Any other complications that threaten the life of the patient.

**At Level 3-** Ayush hospitals are attached with teaching institutions, District Level/Integrated/ State Ayush Hospitals, Tertiary care allopathic hospitals having Ayush facilities, and multiple departments/facilities for diagnosis and interventions. Additional facilities like dieticians, counselling, and physiotherapy must be provided.

**Clinical Diagnosis:** Same as Levels 1& 2. Confirm diagnosis and severity with the help of investigations such as skin biopsy (only done for cases in which clinical diagnosis is not clear), Further investigations like inflammatory bio markers, ECHO, MRI, CT scan, and chemical analysis of uric acid renal stones, Fibroscan(to detect early liver damage in patients with a history of methotrexate used for 2-3 years and alcohol consumption) etc may be advised as per individual case needs.

**Management:** Same as levels 1& 2. For the patients referred from Level-1 or 2, treatment given in Level-1 &/or 2 may be continued if appropriate for the presenting condition, or the case may be reassessed for the totality of symptoms, and treatment may be given accordingly.

For new cases at this level, the totality of symptoms presented by the patient is the sole indicative and guide for treating each patient.

In addition to the level 1 and level 2 management strategies, homoeopathy has a number of remedies that can alleviate the diseases in patients who have not responded to treatment due to a lack of symptoms, co-morbid conditions, or the use of other immune suppressive, oral hypoglycaemic agents, or antihypertensives. Medications can, therefore, be prescribed based on the sphere of action or keynote symptoms as a part of supportive management in these disorders, as well as other advanced pathological states. Some remedies can be used during acute exacerbation conditions or any other intercurrent remedies. Some of the remedies which can be considered are given below. <sup>10,27,28,40,41.</sup>

| Sr. No.             | Drugs*                       | Dose form*                                                                                                                                                                                  | Dose* | Time* | Duration* | Adjuvants*              |                                                                                                                                                                              |  |  |  |
|---------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 1.                  | Arsenicum sulphuratum rubrum | *Varies as per the need of the case, depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | Chrysorbinum ointment.  |                                                                                                                                                                              |  |  |  |
| 2.                  | Arsenicum iodatum            |                                                                                                                                                                                             |       |       |           | Hydrocotyle asiatica Q. |                                                                                                                                                                              |  |  |  |
| 3.                  | Berberis aquifolium          |                                                                                                                                                                                             |       |       |           |                         | <b>Schussler's biochemic remedies</b><br>(Calcarea fluoricum, Kalium muriaticum, Kalium phosphoricum, Natrum muriaticum) may also be prescribed as per the need of the case. |  |  |  |
| 4.                  | Borax                        |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 5.                  | Calcarea sulphurica          |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 6.                  | Castor equi                  |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 7.                  | Chrysarobinum                |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 8.                  | Clematis erecta              |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 9.                  | Corallium rubrum             |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 10.                 | Cuprum aceticum              |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 11.                 | Hepar sulphuris calcareum    |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 12.                 | Iris versicolor              |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 13.                 | Kalium arsenicosum           |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 14.                 | Manganum aceticum            |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 15.                 | Medorrhinum                  |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 16.                 | Mezereum                     |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 17.                 | Natrium arsenicosum          |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 18.                 | Phytolacca decandra          |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 19.                 | Radium bromatum              |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 20.                 | Sarsaparilla officinalis     |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 21.                 | Syphilinum                   |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 22.                 | Thuja occidentalis           |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 23.                 | Tuberculinum                 |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 24.                 | X-ray                        |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| Psoriatic arthritis |                              |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |
| 25.                 | Bryonia alba                 |                                                                                                                                                                                             |       |       |           |                         |                                                                                                                                                                              |  |  |  |

| Sr. No. | Drugs*                      | Dose form* | Dose* | Time* | Duration* | Adjuvants* |
|---------|-----------------------------|------------|-------|-------|-----------|------------|
| 26.     | <b>Phytolacca decandra</b>  |            |       |       |           |            |
| 27.     | <b>Pulsatilla pratensis</b> |            |       |       |           |            |
| 28.     | <b>Rhus toxicodendron</b>   |            |       |       |           |            |
| 29.     | <b>Stellaria media</b>      |            |       |       |           |            |

**Recommended Diet and Lifestyle:** Same as levels 1 & 2

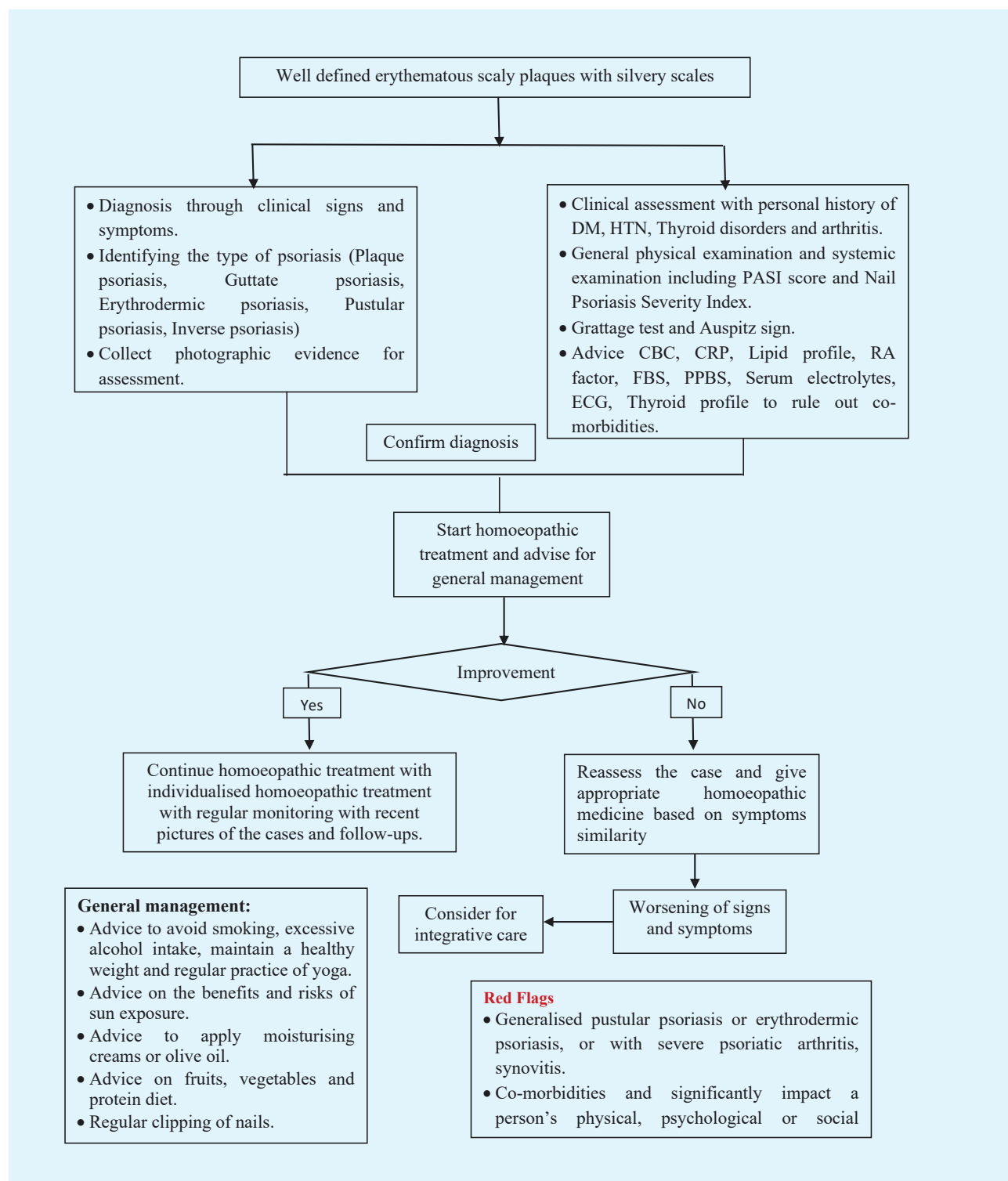
**Restricted Diet and Lifestyle:** Same as levels 1 & 2

**Follow Up: (every 15 days or earlier as per the need)**

**Referral Criteria:**

- Same as mentioned earlier at level 2, plus
- Other modalities can be considered depending on the case.

## ALGORITHM OF TREATMENT PROCESS FOR PSORIASIS



Indications of medicines for Psoriasis <sup>10,41,42,43.</sup>

| Sr. No. | Medicine                            | General Indications                                                                                                                                                                                                                                                                                                                | Characteristic Particulars                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Arsenicum album</b>              | <i>Chilly patient; weak, rapid disproportionate prostration; burning pains better by heat (except headache) increased thirst, drinks often but little at a time; craves milk; cadaveric odour of discharges and body.</i><br><i>Anxiety, restlessness, fretful, wants to be carried, anguish, fear for death and restlessness.</i> | <ul style="list-style-type: none"> <li>• Skin symptoms alternate with asthma or internal disorders.</li> <li>• Psoriasis with severe itching, burning, dryness, scaly, redness, excoriation, and crusting.</li> <li>• Itching worse: wet weather, after midnight, at the seashore; better from warmth or warm applications.</li> </ul>                                                                           |
| 2.      | <b>Arsenicum iodatum</b>            | <i>Acridity of all discharges. Emaciation.</i><br><i>Hurried, impatience, anxiety about health, restless at night.</i><br><i>Worse from tobacco; smoke. Better in open air.</i>                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Dry, scaly, itching skin lesions with marked exfoliation of skin in the form of large scales, leaving a raw, exuding surface beneath with enlarged scrofulous glands.</li> <li>• Skin complaints associated with respiratory illness.</li> <li>• Worse: dry, cold weather, windy, foggy weather, in rooms, hunger.</li> <li>• Better: open air, after eating</li> </ul> |
| 3.      | <b>Arsenicum sulphuratum rubrum</b> | <i>Chilly even before a fire. Great prostration and high temperature.</i>                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Purulent discharges, psoriasis, acne, and sciatica.</li> <li>• Itching in various parts.</li> </ul>                                                                                                                                                                                                                                                                     |
| 4.      | <b>Baryta carbonica</b>             | <i>Especially indicated in infancy and old age. Chilly patients, greatly sensitive to cold, have offensive foot-sweat.</i><br><i>Mentally and physically dwarfish; timid, weary and lack self-confidence, avoid strangers and thinking of complaints makes them worse.</i><br><i>Better in open air.</i>                           | <ul style="list-style-type: none"> <li>• Intolerable itching and tingling over the whole body at night.</li> <li>• Excoriation and oozing in several parts of the skin.</li> </ul>                                                                                                                                                                                                                               |
| 5.      | <b>Baryta muriatica</b>             | <i>Great weakness, which necessitates lying down. Weakness and prostration, amounting almost to paralysis.</i>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Burning and pricking in excoriated places.</li> <li>• Pricking in the skin.</li> </ul>                                                                                                                                                                                                                                                                                  |
| 6.      | <b>Berberis aquifolium</b>          | <i>A remedy for the skin, chronic catarrhal affections, secondary syphilis. Hepatic torpor, lassitude and other evidence of incomplete metamorphosis; stimulates all glands and improves nutrition.</i>                                                                                                                            | <ul style="list-style-type: none"> <li>• Pimples, dry, rough, scaly.</li> <li>• Eruption on scalp extending to face and neck.</li> <li>• Psoriasis.</li> </ul>                                                                                                                                                                                                                                                   |

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| 7.      | <b>Belladonna</b>          | <p><i>Congestion is the keynote of the medicine; hot, red skin, flushed face, glaring eyes, throbbing carotids. Sudden, violent effects; burning heat; bright redness; throbbing pains, appear and disappear suddenly. Thirstless, Dryness of mouth and throat with aversion to water. Right -sided complaints.</i></p> <p><i>Excited mental state, delirium, restless sleep, convulsive movements. Wildly delirious, restless, sensitive, nervous; child jovial and entertaining when well but violent when sick.</i></p> <p><i>Ailments from: sudden exposure to sun or heat, acute inflammation. Worse, touch, jar, noise, draught, after noon, lying down. Better, semi-erect.</i></p> | <ul style="list-style-type: none"> <li>• Erythema; pustules on face.</li> <li>• Alternate redness and paleness of the skin.</li> <li>• Indurations after inflammation.</li> <li>• Worse: touch, motion, noise, draft of air, night, summer sun,</li> <li>• Better: rest, warm room.</li> </ul> |
| 8.      | <b>Borax</b>               | <p><i>Poorly nourished; aphthous ulceration of mucous membranes; dread of downward motion in nearly all complaints.</i></p> <p><i>Nervous, easily frightened, sensitive to sudden noises; awakes suddenly, screaming and grasping sides of bed without apparent cause.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Psoriasis with unhealthy skin, with a tendency for easy suppuration</li> <li>• The head hair is untidy, dirty, tangled, split, sticks together at the tips and cannot be combed smoothly.</li> <li>• Worse: damp, cold weather.</li> </ul>            |
| 9.      | <b>Bryonia alba</b>        | <p><i>Acts on all serous membranes and the viscera they contain. Aching in every muscle. The general character of the pain here produced is a stitching, tearing; worse by motion, better rest.</i></p> <p><i>These characteristic stitching pains, greatly aggravated by any motion, are found everywhere, but especially in the chest; worse pressure. Mucous membranes are all dry.</i></p>                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Yellow, pale, swollen, dropsical; hot and painful. Seborrhoea.</li> <li>• Hair very greasy.</li> </ul>                                                                                                                                                |
| 10.     | <b>Castor equi</b>         | <p><i>General action on thickening of the skin and epithelium.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Psoriasis linguae.</li> <li>• Acts on the nails and bones; pain in right tibia and coccyx.</li> </ul>                                                                                                                                                 |
| 11.     | <b>Calacarea carbonica</b> | <p><i>Chilly patient; takes cold easily; fat, fair, flabby with large head, distended abdomen with red face; pale, weak, easily tired; head sweats profusely while sleeping; sour smelling discharges; longing for fresh air.</i></p> <p><i>Slow development of milestones; tendency for lymphatic glandular enlargement; fearful, shy, timid, slow and sluggish.</i></p> <p><i>Desire for eggs and indigestible things; aversion to meat and milk; feels better when constipated.</i></p>                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Unhealthy; readily ulcerating; flaccid.</li> <li>• Small wounds do not heal readily.</li> <li>• Worse: cold air, wet weather, cold water, from washing</li> <li>• Better: dry weather, lying on a painful side.</li> </ul>                            |

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| 12.     | <b>Calcareasulphurica</b> | <i>Suppurative processes come within the range of this remedy, after pus has found a vent. Mucous discharges are yellow, thick and lumpy.</i>                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Unhealthy, discharging pus; they do not heal readily.</li> <li>• Yellow, purulent crusts or discharge. Purulent exudation in or upon the skin.</li> <li>• Skin affections with yellowish scabs. Many little matterless pimples under the hair, bleeding when scratched.</li> </ul> |
| 13.     | <b>Chrysarobinum</b>      | <i>Chronic skin diseases; intense itching. Vesicular and squamous lesions. Used at external application as well.</i>                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Acts as a powerful irritant of the skin and used successfully in skin diseases especially in psoriasis.</li> <li>• Dry, scaly eruption, especially around eyes and ears, scabs with pus underneath</li> </ul>                                                                      |
| 14.     | <b>Clematis erecta</b>    | <i>Acts especially on skin. A remedy of much importance in disturbances of sleep, and neuralgic pains in various parts. Many of these pains are relieved by perspiration.</i>                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Red, burning, vesicular, scaly, scabby.</li> <li>• Itches terribly; worse, washing in cold water; worse face and hands and scalp around occiput.</li> </ul>                                                                                                                        |
| 15.     | <b>Corallium rubrum</b>   | <i>Congestion of face after dinner. Patient becomes purple in face. One is too cold when uncovered and too hot when covered; relieved by artificial heat.</i>                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Red, flat ulcers. Coral-colored, then dark red spots, changing to copper-colored spots.</li> <li>• Psoriasis of palms and soles.</li> </ul>                                                                                                                                        |
| 16.     | <b>Cuprum aceticum</b>    | <i>Chronic psoriasis.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Leprous-like eruption, without itching, over whole body, in spots of various sizes.</li> </ul>                                                                                                                                                                                     |
| 17.     | <b>Carcinosinum</b>       | <p><i>Thin, delicate children with fine skin and dark complexion or "Café au lait" hue, light-coloured eyes with pigmented moles; strong family history of cancer, tuberculosis &amp; other chronic illnesses; history of pneumonia, mumps, adenoids, typhoid, etc. in the child at an early age; history of excessive parental control in childhood.</i></p> <p><i>Affectionate, loving, sensitive to others' sufferings, sympathetic to animals, fond of them, passionate, fastidious, fearful, sensitive to reprimands.</i></p> | <ul style="list-style-type: none"> <li>• The offensive discharge, haemorrhage and pain are greatly relieved.</li> <li>• Rheumatism Cancerous cachexia.</li> </ul>                                                                                                                                                           |
| 18.     | <b>Flouricum acidum</b>   | <p><i>Adapted to chronic diseases with syphilitic and mercurial history. Complaints of old aged or prematurely aged with weak, distended blood vessels. Young persons with great ability to exercise without fatigue and is sensitive to temperature, perspiration.</i></p> <p><i>Craving cold drinks.</i></p>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Ulcers; red edges and vesicles. Decubitus; worse, warmth.</li> <li>• Itching especially of the orifices, and in spots, worse warmth.</li> </ul>                                                                                                                                    |

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| 19.     | <b>Graphites</b>                 | <p><i>Chilly patient takes cold easily; fatty; pale; tendency to skin affections and constipation; lumpy, thick, hard skin and glands; dislikes sweets.</i></p> <p><i>Cautious, indecisive and lazy; history of delayed menstruation.</i></p> <p><i>Prefer warmth, dread cold air.</i></p>                                                                                                       | <ul style="list-style-type: none"> <li>• Unhealthy skin, eruptions on the ear, between fingers, toes, or other skin folds, from which oozes a watery, transparent, sticky fluid.</li> <li>• Cracks/fissures at tips of fingers, nipples, labial commissures, between toes and anus.</li> <li>• Nails: brittle, crumbling, deformed, painful, sore, as if ulcerated, thick and crippled.</li> <li>• Worse: night, during and after menstruation.</li> </ul> |
| 20.     | <b>Hepar sulphuris calcareum</b> | <p><i>Extremely sensitive to slightest draft, must be wrapped up warmly, cannot bear uncovering.</i></p> <p><i>Peevish, irritable, easily angered.</i></p> <p><i>Desires sour and strong-tasting things.</i></p>                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Unhealthy skin; every little injury suppurates.</li> <li>• Chapped skin, with deep cracks on hands and feet.</li> <li>• Constant offensive exhalation from the body.</li> </ul>                                                                                                                                                                                                                                   |
| 21.     | <b>Iris versicolor</b>           | <p><i>Psoriasis with gastric or pancreatic complaints.</i></p> <p><i>Depression, weak memory, and restlessness at night.</i></p> <p><i>Ailments from liver disorders, migraine, suppressed skin eruptions.</i></p>                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Psoriasis; irregular patches with shining scales.</li> <li>• Worse, in evening and at night, from rest.</li> <li>• Better: gentle, continued motion.</li> <li>• Pustular eruptions.</li> </ul>                                                                                                                                                                                                                    |
| 22.     | <b>Kali arsenicosum</b>          | <p><i>The patient tends towards malignancy, and inveterate skin diseases; Chilly patients.</i></p> <p><i>He is restless, nervous and anaemic.</i></p> <p><i>Aggravation at night.</i></p>                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Inveterate psoriasis, nummular patches with severe itching. Discolouration of skin after psoriasis.</li> <li>• Lesions on the forearms or the anterior part of the lower limbs with burning and itching.</li> <li>• Worse: after midnight from 1 am to 3.00 am, warmth.</li> <li>• Better: rainy days.</li> </ul>                                                                                                 |
| 23.     | <b>Kalium sulphuricum</b>        | <p><i>Thin, weak individuals with constantly shifting symptoms.</i></p> <p><i>Often irritable.</i></p> <p><i>Prefer cool open air, dislike warm rooms.</i></p>                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Psoriasis.</li> <li>• Burning, itching, papular eruption.</li> <li>• Eruption on scalp or beard with abundant scales.</li> </ul>                                                                                                                                                                                                                                                                                  |
| 24.     | <b>Lachesis mutus</b>            | <p><i>Lachesis decomposes the blood, rendering it more fluid; hence a haemorrhagic tendency is marked.</i></p> <p><i>The modalities are most important in guiding to the remedy. Worse, after sleep, left side, in the spring, warm bath, pressure or constriction, hot drinks. Closing eyes. Better, appearance of discharges, warm applications. Ill effects of suppressed discharges.</i></p> | <ul style="list-style-type: none"> <li>• Hot perspiration, bluish, purplish appearance.</li> <li>• Ulcers, with bluish, purple surroundings. Dark blisters.</li> </ul>                                                                                                                                                                                                                                                                                     |

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| 25.     | <b>Lycopodium clavatum</b> | <p><i>Hot patient, intellectually keen but physically weak; upper part of body emaciated, lower part semi- dropsical; complexion pale, dirty, sallow with deep furrows; looks old; recurrent respiratory and gastro intestinal affections; tendency for flatulent dyspepsia; worse from 4- 8 pm; right sided complaints or symptoms shift from right to left.</i></p> <p><i>Dominating, cranky, lack of self-confidence, precocious, desires company, shy, fear to be alone.</i></p> <p><i>Desire for warm foods and drinks, sweet.</i></p> | <ul style="list-style-type: none"> <li>• Skin thick, indurated, dry, and chapped</li> <li>• Skin complaints are associated with hepatic, urinary, or gastric complaints.</li> <li>• Worse: warmth, evening (4.00 pm to 8.00 pm), pressure of the clothes.</li> </ul>                                                       |
| 26.     | <b>Medorrhinum</b>         | <p><i>A powerful and deep-acting medicine. Pains intolerable, tense; nerves quiver and tingle.</i></p> <p><i>Worse, when thinking of ailment, from daylight to sunset, heat, inland. Better, at the seashore, lying on stomach, damp weather.</i></p>                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Intense and incessant itching; worse night and when thinking of it.</li> <li>• Fiery red rash about anus in babies. Copper- colored spots.</li> </ul>                                                                                                                             |
| 27.     | <b>Nitricum acidum</b>     | <p><i>Irritable, headstrong, hateful, vindictive, inveterate, ill-willed, and unmoved by apologies.</i></p> <p><i>Ailments from long-lasting anxiety, over-exertion of mind and body, and loss of dearest friend, emotional trauma, chronic grief, suppressed anger.</i></p>                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Offensive psoriasis with thick skin, scaly spots and plaque with deep cracks.</li> <li>• Pain (Sharp as from splinter-like) stitches with easy bleeding from the lesions.</li> <li>• Worse: touch, cold air, night, changing weather</li> <li>• Better: slight motion.</li> </ul> |
| 28.     | <b>Nux vomica</b>          | <p><i>Chilly patient; thin, prone to indigestion; tongue coated yellowish in the posterior part; thirstlessness; oversensitive to all external impressions: noise, odours, light or music.</i></p> <p><i>Nervous disposition. Spare, quick, active, zealous, and irritable, impatient, spiteful with violent action. Nervous disposition, irritable, angry and impatient.</i></p> <p><i>Craves fatty, spicy food, meat, alcoholic drinks.</i></p>                                                                                           | <ul style="list-style-type: none"> <li>• Body burning hot, especially face; yet cannot move or uncover without feeling chilly.</li> <li>• Skin red and blotchy.</li> </ul>                                                                                                                                                 |
| 29.     | <b>Manganum aceticum</b>   | <p><i>Syphilitic and chlorotic patients with general anemia. General soreness and aching; every part of the body feels sore when touched.</i></p>                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Red, elevated spots.</li> <li>• Itching; better, scratching.</li> <li>• Deep cracks in bends of elbows</li> </ul>                                                                                                                                                                 |

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| 30.     | <b>Mercurius solubilis</b> | <p><i>Sensitive to changes of temperature, profuse offensive perspiration, tongue flabby with imprint of teeth, ptyalism.</i></p> <p><i>Hurried and rapid talking, violent, impulsive, nervous, irresolute, timid, great weakness and trembling from the least exertion.</i></p> <p><i>Ailments from syphilitic miasm, hormonal changes, profuse sweating.</i></p>                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Easily suppurating lesions with offensive discharges, itching worse by perspiration, especially at night.</li> <li>• Worse in damp, wet weather, warmth of bed, warm room.</li> </ul>                                                                                                                                                                       |
| 31.     | <b>Mezereum</b>            | <p><i>Chilly patient; sensitive to cold air; after effects of vaccination, prone to skin affections; constant longing for food.</i></p> <p><i>Indifference; vexed and angry at trifles but is soon sorry and drawing for it; aggravation while alone.</i></p> <p><i>Craving for fat.</i></p>                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Psoriasis with fine white scales covering large areas (scalp, back, palm), moist or oozing eruptions, thick crusts with pus underneath, and ulcerating plaques.</li> <li>• Eruptions after vaccination.</li> <li>• Worse: cold air, at night, alcohol.</li> </ul>                                                                                           |
| 32.     | <b>Natrium arsenicosum</b> | <p><i>A remedy which facilitates the termination of the cold and conserves strength and appetite.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Psoriasis.</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| 33.     | <b>Natrum muriaticum</b>   | <p><i>Hot patient, poorly nourished, great emaciation (marked on neck); losing flesh while living well; craving for salt; aversion to bread and fatty things; constipated; increased thirst; mapped tongue with red insular patches.</i></p> <p><i>Melancholic, sad, plays alone, irritable, cross, cries when spoken to; awkward, hasty, drops things from nervous weakness; disposition to weep without cause, consolation aggravates.</i></p> <p><i>Worse: lying down, talking. Better: open air, going without regular meals, lying on the right side.</i></p> | <ul style="list-style-type: none"> <li>• Skin is greasy and oily, especially on hairy parts. Psoriasis after grief.</li> <li>• Itching and burning, scales, crusty eruptions in the bend of limbs, scalp margins, and behind the ears.</li> <li>• Worse: sea bathing, sunlight, summer, emotions</li> <li>• Better: open air.</li> </ul>                                                             |
| 34.     | <b>Petroleum</b>           | <p><i>Adapted to persons with light hair and skin; Heat and burning of soles of feet and palms of hands; Sweat and moisture of external genitals, both sexes.</i></p> <p><i>Irritable quarrelsome disposition; easily offended at trifles; vexed at everything.</i></p> <p><i>Worse: during a thunderstorm; in winter.</i></p>                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Psoriasis with horrible dryness of the whole skin. It develops at sites of skin wounds, mostly on hands between fingers, fingertips, palms, scrotum, heels, and soles.</li> <li>• A thick, white, scaly lesion with cracks in folds, fissures, sore, red, cracked with deep and bleeding cracks.</li> <li>• Worse: winter, thunderstorms. Night.</li> </ul> |

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| 35.     | <b>Phosphorus</b>           | <p><i>Tall, fast growing child with tendency to stoop; Haemorrhagic tendency. Chilly patient, haemorrhagic tendency; Great susceptibility to external impressions, to light, sound, odors, touch, electrical changes, thunder-storms.</i></p> <p><i>Nervous and affectionate, anxious especially during thunderstorm.</i></p> <p><i>Craving for salt, cold foods and drinks; ice cream; aversion to milk. Oversensitive to external Impressions.</i></p> | <ul style="list-style-type: none"> <li>• Dry patches with excessive scales which detach easily and bleed.</li> <li>• Mainly on the scalp, eyebrows, palms, elbows, knees, legs and soles.</li> <li>• Marked burning, with bleeding excessively from any scratching.</li> <li>• Worse: change of weather, cold, thunderstorms.</li> </ul> |
| 36.     | <b>Phytolacca decandra</b>  | <p><i>Aching, soreness, restlessness, prostration. Right side remedy; it also acts on scar tissue.</i></p> <p><i>Melancholy, gloom, and indifference to life.</i></p> <p><i>Ailments from glandular and rheumatic disorders.</i></p>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Skin- dry, harsh, shrivelled. Associated with rheumatism. Pains flying like electric shocks, rapidly shifting, shooting, lancinating.</li> <li>• Worse: damp weather, rain, cold nights, and movement.</li> <li>• Better: warmth, dry weather.</li> </ul>                                       |
| 37.     | <b>Pulsatilla nigricans</b> | <p><i>Hot patient; marked changeability of symptoms; aversion to fatty foods, warm foods and drinks, dislikes butter; thirstless with great dryness of mouth; tongue coated yellow or whitish.</i></p> <p><i>Desire for company; mild, gentle, affectionate, yielding, weeping disposition.</i></p> <p><i>Worse towards evening and in warm room, better in open air, by slow, gentle motion and cold applications.</i></p>                              | <ul style="list-style-type: none"> <li>• Skin itching on being heated with pustular eruptions.</li> <li>• Worse: warm, closed room, evening, on beginning to move, heat</li> <li>• Better: open air, lying on a painful side, cold air or cold application.</li> </ul>                                                                   |
| 38.     | <b>Psorinum</b>             | <p><i>Extreme sensitiveness to cold. Debility, independent of any organic disease, especially the weakness remaining after acute disease. Lack of reaction, i.e, phagocytes defective; when well-chosen remedies fail to act. Scrofulous patients. Secretions have a filthy smell. Profuse sweating. Often gives immunity from cold-catching.</i></p>                                                                                                    | <ul style="list-style-type: none"> <li>• Dirty, dingy look. Dry, lustreless, rough hair. Intolerable itching.</li> <li>• Eruptions, especially on scalp and bends of joints with itching; worse, from warmth of bed.</li> <li>• Crusty eruptions all over. Pustules near finger- nails.</li> </ul>                                       |
| 39.     | <b>Rhus toxicodendron</b>   | <p><i>Chilly patient; sore, body bruised and stiff; restless, can't rest in any position; red triangular tip of tongue; unquenchable thirst.</i></p> <p><i>Great apprehension at night, sad, anxious; weeping without knowing why.</i></p> <p><i>Desire for cold milk; worse in damp, cold, rainy weather, during rest and sleep, better by continued motion.</i></p>                                                                                    | <ul style="list-style-type: none"> <li>• Dry, red, chapped, raw skin with intense itching.</li> <li>• Burning eczematous eruptions with tendency to scale formation.</li> <li>• Worse: night, cold, wet weather, perspiration, first motion</li> <li>• Better: warm, dry weather, continued motion</li> </ul>                            |

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| 40.     | <b>Radium bromatum</b>   | <i>Chronic eczema with burning, itching. Suited to sensitive constitutions.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Small pimples. Erythema and dermatitis, with itching, burning, swelling and redness. Necrosis and ulceration.</li> </ul>                                                                                                                                                                                                                                                                                              |
| 41.     | <b>Silicea terra</b>     | <p><i>Imperfect assimilation and consequent defective nutrition. Silica can stimulate the organism to re-absorb fibrotic conditions and scar-tissue.</i></p> <p><i>Cold, chilly, hugs the fire, wants plenty warm clothing, hates drafts, hands and feet cold, worse in winter. Lack of vital heat. Prostration of mind and body. Great sensitiveness to taking cold.</i></p>                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Cracks at ends of fingers.</li> <li>• Rose-colored blotches. Pus offensive.</li> <li>• Every little injury suppurates. Dry fingertips.</li> <li>• Eruptions itch only in daytime and evening.</li> <li>• Crippled nails. Abscesses of joints.</li> </ul>                                                                                                                                                              |
| 42.     | <b>Sepia officinalis</b> | <p><i>Chilly patient; tall, thin built with yellow saddle across upper part of cheeks and nose, big belly; dry flabby skin. Predisposed to take cold at change of weather.</i></p> <p><i>Cheerful, active when well but indifferent and quarrelsome when sick; self absorbed, sad, weeping and indolent.</i></p> <p><i>Desire for sour food which aggravates.</i></p>                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Ring-shaped lesions on the upper part of the body.</li> <li>• Itching is worse on the elbow and knees.</li> <li>• Itching not &gt; by scratching, and changes to burning.</li> <li>• Worse: Spring, after washing, exposure to cold air</li> <li>• Better: warmth of bed, hot application and violent exercise.</li> </ul>                                                                                            |
| 43.     | <b>Staphysagria</b>      | <p><i>Very sensitive to the slightest mental impressions; sensitive temperament; least action or harmless word offends, apathetic, indifferent, low-spirited.</i></p> <p><i>Ailments from thwarted pride, envy or chagrin, emotional suppression or grief.</i></p>                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Violent itching, changes location after scratching</li> <li>• Thick scabs.</li> <li>• Inflammation of phalanges.</li> </ul>                                                                                                                                                                                                                                                                                           |
| 44.     | <b>Sulphur</b>           | <p><i>Hot patient, kicks off the cloth at night; dirty, filthy, does not want to be washed; lean, thin, stoop-shouldered; child who walks and sit stooping; prone to skin affections, venous congestions; have a very weak and faint feeling about 11 a.m. and must have something to eat; have burning heat on palms and soles especially at night, red orifices; when the best selected remedy fails to improve.</i></p> <p><i>Restless, quick tempered.</i></p> <p><i>Desires sweets, sugar, meat. Worse from standing, at night.</i></p> | <ul style="list-style-type: none"> <li>• Dirty, filthy skin. Excessive burning all over; marked itching, wants to scratch, burning after scratching.</li> <li>• Eruptions are dry, scaly, pustular, with cracks and excoriations in skin folds.</li> <li>• Worse: at rest, when standing, in the warmth of bed, washing, bathing, in the morning at 11 am, at night, from alcoholic stimulants, periodically.</li> <li>• Better: dry, warm weather.</li> </ul> |

| Sr. No. | Medicine                        | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Characteristic Particulars                                                                                                                                                                                                              |
|---------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 45.     | <b>Sarsaparilla officinalis</b> | <i>Eruptions following hot weather and vaccinations; boils, and eczema.</i><br><i>Worse, dampness at night, after urinating, when yawning, in spring, before menses.</i>                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Rash from exposure to open air; dry, itching; comes on in spring; becomes crusty.</li> <li>Skin cracked on hands and feet. Skin hard, indurated. Summer cutaneous affections.</li> </ul>         |
| 46.     | <b>Syphilinum</b>               | <i>Suffering from utter prostration and debility in morning; successive abscesses. Syphilitic affections. Pains from darkness to daylight; decrease and increase gradually.</i><br><i>Apathetic and indifferent; compulsive checking, compulsive hand washing; night terror; destructive tendency. Strong hereditary tendency to alcoholism. Terrible dread of night on account of mental and physical exhaustion on awakening; it is intolerable, death is preferable.</i>                    | <ul style="list-style-type: none"> <li>Reddish-brown eruption, with a disagreeable odor.</li> </ul>                                                                                                                                     |
| 47.     | <b>Stellaria media</b>          | <i>Induces a condition of stasis, congestion, and sluggishness of all functions.</i><br><i>Rheumatism; darting pains in almost every part; stiffness of joints; parts sore to touch.</i><br><i>Worse motion, morning aggravation.</i>                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Psoriasis.</li> <li>Worse, mornings, warmth, tobacco.</li> <li>Better, evenings, cold air, motion.</li> </ul>                                                                                    |
| 48.     | <b>Tuberculinum</b>             | <i>Takes cold easily; tall, lean, thin, narrow-chested; active and precocious mentally but weak physically; emaciated with good appetite; family/ personal history of tuberculosis; changeability of symptoms.</i><br><i>Obstinate and disobedient children; irritable, fretful, desire to use foul language; discontented, fear of dogs.</i>                                                                                                                                                  | <ul style="list-style-type: none"> <li>Itching intense; worse at night.</li> <li>Psoriasis.</li> </ul>                                                                                                                                  |
| 49.     | <b>Thuja occidentalis</b>       | <i>Chilly patient; dark, fleshy with greasy face; Dark hair. Unhealthy skin, looks dirty with brownish spots; tendency for warty growths; oily/ greasy sweat, face &amp; stool; perspiration on uncovered parts.</i><br><i>Complaints worse from cold, warm air &amp; damp humid weather, at night; and chronic complaints better during a cold. Better by warmth, free secretions, while drawing up a limb, left side, lazy. Ailments from vaccination; with illusions &amp; fixed ideas.</i> | <ul style="list-style-type: none"> <li>Annular type of lesion with moist or oily skin.</li> <li>Eruptions on covered parts, worse after scratching.</li> <li>Nails crippled; brittle and soft.</li> <li>Worse: cold bathing.</li> </ul> |

| Sr. No. | Medicine           | General Indications                                                                                                                                                                                                                                                                            | Characteristic Particulars                                                                                                                                                                         |
|---------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 50.     | <b>Thyroidinum</b> | <p><i>Thyroid exercises a general regulating influence over the mechanism of the organs of nutrition, growth and development.</i></p> <p><i>Thyroid weakness causes decided craving for large amount of sweets. Great weakness and hunger yet loses flesh.</i></p>                             | <ul style="list-style-type: none"> <li>• Psoriasis associated with adiposity.</li> <li>• Skin dry, impoverished. Cold hands and feet.</li> <li>• Itching without eruption, worse night.</li> </ul> |
| 51.     | <b>X-ray</b>       | <p><i>Has the property of stimulating cellular metabolism. Arouses the reactive vitality, mentally and physically. Brings to the surface suppressed symptoms, especially sycotic and those due to mixed infections. Its homoeopathic action is thus centrifugal, towards the periphery</i></p> | <ul style="list-style-type: none"> <li>• Erythema around roots of nails.</li> <li>• Skin dry, wrinkled. Painful cracks.</li> <li>• Nails thicken.</li> <li>• Psoriasis.</li> </ul>                 |

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# 04

## URTICARIA





# URTICARIA

(ICD 10 code: L50.0- 50.9)

(ICD 11 Code: EB00.1)

## CASE DEFINITION<sup>1,2</sup>

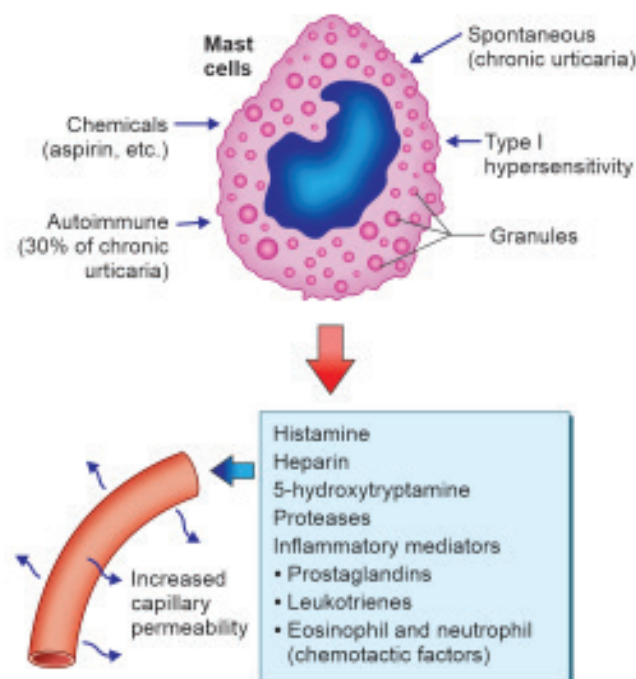
Urticaria (hives) is characterized by the rapid onset of lesions known as wheals that consist of a central mid dermal swelling with or without surrounding erythema, with associated pruritus, lasting anywhere from 1 to 24 hours. The term urticaria is named after the stinging nettle plant (*Urtica dioica*), which contains histaminic acid. Associated angioedema can sometimes be seen, characterized by swelling of the deeper dermis and subcutaneous tissue lasting up to 72 hours.<sup>1,2</sup>

## INTRODUCTION<sup>3-6</sup> (*incidence/ prevalence, morbidity/mortality/risk factors*)

- Urticaria is a common skin disease. About 8–20% of individuals in the community experience an attack of urticaria at least once in their lifetime.<sup>3</sup>
- It can be seen in all ages and sexes but is slightly more common in young adults. In 40–50% of the patients, urticaria and angioedema are seen in combination, only urticaria or angioedema is seen in 40% and 20% of the people, respectively.<sup>4</sup>
- Urticaria is a mast cell–driven disorder characterized by the recurrent development of hives (urticaria) and/or swelling (angioedema).<sup>3</sup>
- Urticaria affects nearly 1% of the world population, with over 100 million new cases each year. India lacks specific epidemiological studies but contributes heavily to total global burden.
- Chronic cases appear commonly in adults, especially women. India bears a significant burden of urticaria in absolute terms—accruing the highest number of Disability-Adjusted Life Year (DALYs) globally.
- In children (<14 years) at a tertiary hospital in Northern India, 57% had spontaneous urticaria; about 12% had dermatographism, 2% had cold-induced, 1.3% aquagenic, and 1.7% cholinergic urticaria.<sup>5,6</sup>

## ETIOPATHOGENESIS

The underlying event leading to urticaria is mast cell degranulation, with release of histamine and other proinflammatory molecules. There are numerous stimuli that can lead to mast cell activation through various pathways (Fig.1).



**Fig1:** Diagrammatic Overview of Urticaria

This release can be triggered by allergic, pseudoallergic, toxic, and physical mechanisms <sup>1</sup>

- Urticaria is allergic when specific antigens crosslink specific IgE antibodies attached to mast cells.
- Pseudoallergic urticaria describes the release of mast cell mediators after exposure to foods or medications but without the presence of specific immunoglobulin (IgE) antibodies.
- Endogenous or exogenous substances such as opiates, codeine, or complement proteins can alter the sensitivity of mast cells to both the stimuli.

### 1. Acute urticaria

The most common cause of acute urticaria is viral infections, particularly of the upper respiratory tract. Other common causes of acute urticaria are listed in the Box below. Food-induced type I hypersensitivity reactions are a rare cause of acute urticaria in adults but occur more commonly in children.

**Table 1- Causes of Acute Urticaria<sup>1</sup>**

| Causes of Acute Urticaria   |                                                                                                                                                                                       |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Infections (~40%)</b>    | Viral respiratory, especially rhinovirus and rotavirus (cause in 80% of children), <i>Helicobacter pylori</i> , <i>Mycoplasma</i> , hepatitis, mononucleosis, and parasitic helminths |
| <b>Drugs (~10%)</b>         | Beta-lactam antibiotics, nonsteroidal anti-inflammatory drugs (NSAIDs), aspirin, ACE inhibitors, diuretics, opiates, contrast media, and blood                                        |
| <b>Foods (~1%) - Adults</b> | Shellfish, freshwater fish, berries, nuts, peanuts, pork, chocolate, tomatoes, spices, food additives, and alcohol                                                                    |

| Causes of Acute Urticaria     |                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Foods (~1%) - Children</b> | Milk and other dairy products, eggs, wheat, and citrus                                                |
| <b>Inhalants</b>              | Pollen, molds, dust mites, and animal dander                                                          |
| <b>Systemic diseases</b>      | Lupus erythematosus, Still's disease, thyroid disease, cryoglobulinemia, mastocytosis, and carcinomas |
| <b>Emotional stress</b>       |                                                                                                       |
| <b>~50% Idiopathic</b>        |                                                                                                       |

2. **Chronic urticaria:** The most common underlying causes of chronic urticaria are:

- Autoreactivity or expression of circulating mast cell secretagogues including autoantibodies (autoimmune urticaria). This is now known as Type IIb CSU.
- Autoallergic Variety also known as Type I CSU.
- Chronic infections.
- Intolerance to food components.

**Table 2: Causes of Chronic Urticaria <sup>1</sup>**

|                          |                                                    |
|--------------------------|----------------------------------------------------|
| <b>Autoreactivity</b>    | Autoimmunity (anti-FcεRI-Ab, anti-IgE-Ab) (40–50%) |
| <b>Chronic infection</b> | Hepatitis B, H. pylori                             |
| <b>Intolerance</b>       | Foods, drugs, pseudoallergy                        |
| <b>Other causes</b>      | Type I allergy, internal disease                   |
| <b>Idiopathic</b>        | ~50%                                               |

Though not all the factors listed above are seen in all cases, it must be noted that patients of CSU should NOT be subjected to detailed investigations. In the majority of patients with chronic urticaria, an underlying disease will not be found.

## CLINICAL PRESENTATION<sup>7-11</sup>

- **Lesion morphology:** Wheals are abrupt, well-circumscribed, raised, itchy erythematous to pale lesions varying from millimeters to several centimeters; they appear, migrate, and typically resolve within twenty-four hours without residual marks. They cause intense pruritus and/or burning sensations.
- **Angioedema:** Characterized by sudden swelling of deeper dermis, subcutaneous tissue, or mucosa (e.g., lips, eyes, genitals); often painful (not pruritic), resolving within up to 72 hours
- **Distribution & duration:** Can affect any part of body, including scalp, palms, and soles.
- **Associated symptoms:** May include systemic manifestations like headache, dizziness, throat tightness, wheezing, GI discomfort (nausea, vomiting, diarrhea), arthralgia, fever etc.
- **Dermographism & physical triggers:** Stroking skin may reproduce wheals ("dermatographism") within minutes; characteristic of physical urticaria-physical factors (pressure, temperature changes, vibration, sunlight) may precipitate symptoms

- **Alarming features indicating vasculitis or anaphylaxis:** Wheals lasting more than 24 hours, painful, non-blanching, or leaving purpura/hyperpigmentation suggest urticarial vasculitis. Associated symptoms such as hypotension, stridor, GI symptoms, or confusion point toward systemic anaphylaxis.



**Fig 2:** Urticaria: pale pink edematous wheals with a surrounding flare



**Fig 3:** Urticaria: itchy pink wheals

Courtesy: Illustrated Synopsis of Dermatology and Sexually Transmitted Diseases, Neena Khanna Fourth edition.

## CLINICAL EXAMINATION

Clinical examination of urticaria involves assessing the patient's overall health, including vital signs, identifying potential triggers (as mentioned in tables 1 & 2), and performing a physical examination of the urticarial lesions.

The physical examination of urticaria includes<sup>12</sup>

- I. Type/Appearance of lesion.
- II. Size
- III. Shape
- IV. Colour of lesion
- V. Margin
- VI. Number
- VII. Site of lesion
- VIII. Distribution-whether lesions are localized or generalized.

**Table 3: Classification of urticaria**

| Classification of urticaria is based on duration and cause <sup>13-15</sup> |                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute spontaneous urticaria</b>                                          | Characterized by the sudden appearance of wheals and/or angioedema lasting less than six weeks.                                                                                                                |
| <b>Chronic spontaneous urticaria (CSU)</b>                                  | Refers to spontaneous wheals and/or angioedema persisting for six weeks or longer. This term is interchangeable with "urticaria" or "chronic idiopathic urticaria."<br>There are two types Type I and Type IIb |
| <b>Chronic inducible urticaria (CIndU)</b>                                  | Involves wheals triggered by physical stimuli (e.g., pressure, temperature changes) that continue for six weeks or more—also known as "physical urticaria."                                                    |

| Summary for different types of classifications for urticaria <sup>13-15</sup> |                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Category                                                                      | Subtypes / Examples                                                                                          |
| Acute (<6 weeks)                                                              | Spontaneous (infection, allergy, idiopathic).                                                                |
| Chronic (≥6 weeks) aka CSU                                                    | CSU (no trigger) and CIndU (physical/special triggers).                                                      |
| Inducible Urticaria                                                           | Dermatographic, Cold, Heat, Delayed pressure, Solar, Vibratory, Aquagenic, Cholinergic, Contact, Adrenergic. |
| Contact Urticaria                                                             | Contact with chemicals found in foods, plants, and medicines elicits urticaria.                              |

## DIFFERENTIAL DIAGNOSIS<sup>16,17</sup>

**Table 4: Differential diagnosis of urticaria**

| Differential diagnosis                                             | Characteristic and diagnostic features                                                                                                                                                                |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Urticarial vasculitis</b>                                       | Wheals lasting >24 h, often painful/burning, with residual hyperpigmentation or purpura. May present with systemic symptoms (fever, arthralgia, nephritis); biopsy shows leukocytoclastic vasculitis. |
| <b>Cutaneous mastocytosis (urticaria pigmentosa)</b>               | Brown/orange lesions, positive Darier's sign (wheal upon stroking), smaller fixed lesions.                                                                                                            |
| <b>Bullous pemphigoid (prodromal)</b>                              | Urticarial plaques evolving into tense bullae; histopathology shows subepidermal blisters with eosinophilic infiltrate.                                                                               |
| <b>Urticarial dermatitis</b>                                       | Mix of urticarial wheals and eczematous patches; spongiosis and lymphocytic infiltrate on biopsy.                                                                                                     |
| <b>Cutaneous lupus erythematosus</b>                               | May mimic urticaria; biopsy reveals interface dermatitis, basal vacuolization, mucin deposition.                                                                                                      |
| <b>Henoch–Schönlein purpura (IgA vasculitis), cryoglobulinemia</b> | Purpuric vasculitis lesions, systemic signs (renal, joint, abdominal).                                                                                                                                |
| <b>Fixed drug eruption</b>                                         | A drug reaction that occurs at the same location on skin with each exposure to a specific drug, potentially mimicking urticaria.                                                                      |
| <b>Atopic dermatitis</b>                                           | It can sometimes present with urticarial-appearing lesions.                                                                                                                                           |
| <b>Insect bites</b>                                                | It can cause localized urticarial lesions.                                                                                                                                                            |
| <b>Pityriasis rosea</b>                                            | It may be mistaken for urticaria due to its appearance, but it has a characteristic herald patch and follows a specific pattern of distribution.                                                      |
| <b>Contact dermatitis</b>                                          | It can sometimes manifest as urticarial lesions, especially in irritant or allergic contact dermatitis.                                                                                               |
| <b>Sweet syndrome (Acute febrile neutrophilic dermatosis)</b>      | The condition may present with urticarial lesions (oedematous, erythematous plaques that can mimic urticaria) along with fever and other systemic symptoms.                                           |

## SUPPORTIVE INVESTIGATIONS<sup>18-25</sup>

Some principles that determine the investigation are:<sup>1</sup>

1. Acute urticaria is generally not investigated.
2. Acute recurrent urticaria is frequently clarified with a history, as a possible trigger (food, medication, activity) can be identified. One should not forget to enquire about mucosal contacts, such as toothpaste, latex condoms, or even semen. Everything that comes in contact with the mucosa should be sought for, like drugs (prescription and over-the-counter; asking directly about aspirin and nonsteroidal anti-inflammatory drugs [NSAIDs]), all foodstuffs including spices, drinks and even chewing gum.
3. Chronic urticaria often remains idiopathic. Now there is a concept of endotypes and there are certain investigations that can be employed to differentiate the types of CSU, but they relate to the course and preferred treatment and need expert interpretation by centers that are proficient in these tests.

The current investigation strategy is detailed for Acute and CSU keeping the principles as above in view based on the best current evidence [Table 4 and 5]. Provocation tests for CINDU are given in Table 6

**Table 4- Investigations for Acute Urticaria**

|                                                                                                                                                                                                                                                                                             |                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <ol style="list-style-type: none"><li>1. Full blood count with differential white cell count</li><li>2. CRP levels and/or ESR</li><li>3. Culture of relevant specimens</li><li>4. Serum allergen-specific IgE tests*</li><li>5. Prick tests*</li><li>6. Oral drug challenge tests</li></ol> | Most cases do not need any testing |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|

\*ONLY if IgE mediated Type 1 hypersensitivity is suspected as a cause of urticaria, avoid unnecessary testing. [Sardana K. Urticaria and Angioedema Current Insights. CBS Publishers & Distributors Private Limited; 2022.]

**Table 5 Investigations for CSU**

| Differential blood count. ESR and/or CRP, IgG anti- TPO and total IgE                                                                                                                                                                                                                          | Routine Tests                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"><li>i. Infectious diseases</li><li>ii. Thyroid Gland disorders (thyroid hormones and autoantibodies)</li><li>iii. Concomitant CINDU (see below)</li><li>iv. Severe systemic diseases (e.g. tryptase)</li><li>vi. Other (e.g. lesional skin biopsy)</li></ol> | Extended diagnostic Tests<br>For identification of underlying causes or eliciting factors and for ruling out possible differential diagnoses if indicated based on history. |

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**Table 6- Investigations for CIndU**

| Challenge test/<br>Provocative test:<br><br>Recommendations for<br>confirming the relevance<br>and threshold of triggers<br>for inducible urticaria. | Type                        | Challenge test                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                      | Cold Urticaria              | Apply cold stimulus (e.g. ice cube on forearm) and observe for wheal-and-flare reaction during skin rewarming.   |
|                                                                                                                                                      | Heat urticaria              | Heat provocation and threshold test.                                                                             |
|                                                                                                                                                      | Solar urticaria             | Photo Test to various wavelengths of light.                                                                      |
|                                                                                                                                                      | Symptomatic dermatographism | Stroke skin with firm object (e.g. tongue blade or other instrument with a firm edge.), or a dermatographometer. |
|                                                                                                                                                      | Aquagenic urticaria         | Water compress applied to upper body for 30 minutes                                                              |
|                                                                                                                                                      | Cholinergic urticaria       | Provocative challenges that increase body temperature<br><br>(e.g, exercise, hot water immersion)                |

## DIAGNOSTIC CRITERIA

The diagnosis will be done based upon the clinical presentation, clinical examination and investigations as mentioned above.

## PRINCIPLES OF MANAGEMENT<sup>26,27</sup>

The principles of management include assessment of signs and symptoms before initiating treatment and the need for management through conventional treatment for associated co morbidities. If the patient is already under standard care, the physician may advise to continue the same along with add-on homoeopathy and can be assessed for the same in the follow ups for tapering or discontinue the treatment in consultation with the conventional physician.

### Red Flag Signs

These signs should be assessed before initiating treatment for need for management/consultation through modern medicine.

1. Angioedema of airway structures & family History.
2. Respiratory distress (stridor, wheezing).
3. Cardiovascular signs (hypotension, tachycardia, syncope).
4. Hives that persist > 24–48 hours or ulcerate.
5. Systemic signs (fever, weight loss, night sweats, arthralgia).
6. Chronic hives (> 6 weeks).
7. Urticaria as a part of severe allergic reaction.
8. Urticaria with symptoms of anaphylaxis (dizziness, breathing troubles and swelling of tongue, lips, mouth or throat).

## (A) Prevention Management<sup>26,27</sup>

- ✓ Hydration: Maintain adequate water intake to support skin hydration and overall health.
- ✓ Avoid known triggers like spices, herbs, dairy products like (aged cheese, yogurt, sour cream), vegetables like spinach, tomatoes and seafood products.
- ✓ Regular moderate exercise: Promotes immune balance.
- ✓ Sleep and environmental controls: Ensure proper sleep hygiene; maintain cool, well-ventilated surroundings; choose breathable, loose cotton clothing.
- ✓ Bath and change of clothes- If pollen or animal contact has triggered urticaria in the past, take a bath and changes clothes.

## Yoga<sup>28</sup>

Regular practice of yogic techniques such as Neti (nasal cleansing), selected Asanas—including Tadasana (Palm Tree Pose), Trikonasana (Triangle Pose), Veerabhadrasana I & II (Warrior Poses I & II), Setu Bandhasana (Bridge Pose), and Shavasana (Corpse Pose)—along with breathing practices (Pranayama) such as Nadi Shodhana (alternate nostril breathing), Bhramari (humming bee breathing), and Sheetali (cooling breath), play a significant role in maintaining overall health.

These practices collectively help in reducing psychological stress, improving blood circulation, facilitating detoxification, and regulating immune function. Furthermore, the inclusion of Dhyana (meditation) and Yoga Nidra (yogic relaxation) enhances mental stability and promotes psychosomatic balance. Together, these interventions contribute to strengthening the body's natural defense mechanisms and may aid in reducing the risk or progression of disorders such as urticaria.

## (B) Interventions

**At Level 1-** Solo physician clinic, health clinic, PHC (optimal standard of treatment where technology and resources are limited)

**Clinical diagnosis:** Urticaria is diagnosed after a complete medical history, psychiatric, triggering factors and physical examination. Confirm whether the lesions are consistent with the presentation of urticaria. Check for the type of lesion, colour of the lesion, margin, shape, number, size, site, blanchability and dermatographism. Some investigations, like CBC (Complete blood count), ESR (Erythrocyte sedimentation rate), CRP (C-Reactive protein), Stool Examination, and total IgE may be done.

## Management

Research studies indicate that homoeopathic medicines play a considerable role in not only providing symptomatic relief, marked reduction in inflammatory measures in urticaria but also play a significant role in improving the well-being, activity and quality of life of patients with urticaria, without any adverse effects.<sup>30-36</sup> Many remedies are listed in homoeopathic literature to treat this condition; however, the totality of symptoms presented by the patient is the sole indication and guide for treating each patient. Because of the chronicity of the disease, a single dose may not be sometimes sufficient. Repetition of doses, change of potency, and change of remedy during follow-up are based on the totality of symptoms, miasmatic cleavage, Kent's 12 observations, and other homoeopathic principles.

Flow-diagram for management is given at annexure I.

Some of the commonly prescribed medicines<sup>37-39</sup> are as follows (indications of medicines is given at annexure II):

| Sr. No. | Medicines*                  | Dose form*                                                                                                                                                                                  | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                                                                                                       |
|---------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Apis mellifica</b>       | *Varies as per the need of the case, depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | <b>Mother tincture-</b><br>Urtica Urens Q,<br>Echinacea Angustifolia Q,<br>Berberis Aquifolium Q,<br><br><b>Schussler's biochemic remedies</b> (Ferrum phosphoricum, Natrum muriaticum, Natrum phosphoricum,) may also be prescribed as per the need of the case |
| 2.      | <b>Antipyrinum</b>          |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 3.      | <b>Arsenicum album</b>      |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 4.      | <b>Antimonium crudum</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 5.      | <b>Bovista lycoperdon</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 6.      | <b>Belladonna</b>           |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 7.      | <b>Copaiva officinalis</b>  |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 8.      | <b>Dulcamara</b>            |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 9.      | <b>Ignatia amara</b>        |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 10.     | <b>Natrum muriaticum</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 11.     | <b>Nux vomica</b>           |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 12.     | <b>Pulsatilla nigricans</b> |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 13.     | <b>Rhus toxicodendron</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 14.     | <b>Rhus venenata</b>        |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 15.     | <b>Sepia officinalis</b>    |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 16.     | <b>Uva ursi</b>             |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |
| 17.     | <b>Urtica urens</b>         |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                  |

### Dos and don'ts while taking homoeopathic medicine <sup>29</sup>

Patients taking homoeopathic medicine are advised not to eat, drink, smoke, for at least half an hour before or after taking medication and to avoid emotional stress, strains and excitements. No new habits or addictions should be indulged in while taking the medicine.

### Recommended Diet and Lifestyle<sup>26,27,28</sup>

Lifestyle and dietary recommendations for urticaria patients should consider overall health benefits and risks. Some of the measures are:

- **Diet:** Foods low in histamine such as freshly cooked meals, fresh fruits and vegetables may be recommended.
- **Lifestyle:** Stress management practices like mindfulness, meditation, and breathing exercises (e.g., pranayama) might help.
- **Yoga:** Asanas—including Tadasana (Palm Tree Pose), Trikonasana (Triangle Pose), Veerabhadrasana I & II (Warrior Poses I & II), Setu Bandhasana (Bridge Pose), and Shavasana (Corpse Pose)—along with breathing practices (Pranayama) such as Nadi Shodhana (alternate nostril breathing), Bhramari (humming bee breathing), and Sheetal (cooling breath), play a significant role in maintaining overall health.

### **Restricted Diet & Lifestyle<sup>26,27</sup>**

- Foods such as alcohol, food additives (dyes, preservatives, artificial sweeteners), seafood, certain vegetables and fruits (to which the patient is allergic), spices and herbs, chocolate, chewing gum/candy may be avoided
- Smoking constricts skin blood vessels and deteriorates skin blood flow, thereby reducing the oxygen supply to skin tissues. This promotes a decline in skin function, including a decrease in skin elasticity and skin hydration.
- Scratching should be avoided as it may flare up urticaria.
- Wearing tight clothes should be avoided.

### **Follow-up (every 7 days or earlier as per the need)**

#### **Reviews should include<sup>30</sup>:**

- Monitoring the lesions and the ongoing impact of the condition on their everyday activities and quality of life.
- Discussing the person's knowledge of the triggering factors, any concerns they have, their personal preferences, and their ability to access services.
- Reviewing the effectiveness and tolerability of treatments.
- Self-management support.

#### **Referral criteria**

- If symptoms cannot be controlled with regular treatment and even after avoidance of triggering factors.
- Patients suffering from angioedema.
- Substantial impact on their quality of life and activities of daily living.
- Evidence of an increase in severity/complications
- Diagnostic uncertainty.
- Uncontrolled comorbidities such as diabetes mellitus, hypertension etc.
- Urticaria with symptoms of anaphylaxis.
- Hereditary angioedema, physical urticaria not responding to treatment.

**At Level 2** (CHC/Small hospitals (10-20 bedded hospitals with basic facilities such as routine, investigation, X-ray)

**Clinical Diagnosis:** Same as Level 1. The case referred from Level 1, or a fresh case must be evaluated thoroughly for any complications.

**Investigations:** The diagnosis would be primarily clinical. Investigations may be necessary (if not done at primary level) to investigate complications or exclude other differential diagnoses as follows:

1. Infection screens
2. Thyroid panels

**Management:** Same as Level 1. For the patients referred from Level-1, treatment given in Level-1 may be continued if appropriate for the presenting condition or the case may be reassessed for the totality of symptoms and treatment may be given accordingly. For new

cases at this level, the medications mentioned for Level-1 may also be considered, however, the totality of symptoms presented by the patient is the sole indicative and guide for treating each patient.

**Recommended Diet and Lifestyle:** Same as level 1

**Restricted Diet and Lifestyle:** Same as level 1

**Follow-up (every 7 days or earlier as per the need)**

**Referral criteria**

- Same as mentioned earlier at Level 1, plus
- Failure of acute exacerbation to respond to initial medical management.
- Any other complications that threaten the life of the patient.

**At Level 3-** Ayush hospitals attached with teaching institution, District Level/Integrated/ State Ayush Hospitals, Tertiary care allopathic hospitals having Ayush facilities, multiple departments/facilities for diagnosis and interventions. Must provide additional facilities like dieticians, counselling, and physiotherapy unit.

**Clinical Diagnosis:** Same as Levels 1 & 2. Confirm diagnosis and severity with the help of investigations.

**Investigations:**

- Autologous Serum Skin Test (ASST)
- Screening for neutrophil rich infiltrates in skin biopsy, performing gene mutation analysis for hereditary periodic fever syndromes.
- In cases of suspected hereditary angioedema (HAE), test for complement C4. If mean wheal duration >24 hours, perform biopsy of skin lesion to assess for signs of urticarial vasculitis.
- Complement activity tests.
- Anti-nuclear antibody, rheumatoid factor, and/or anti-citrullinated protein.
- Thyroid autoantibodies to TSH receptor, thyroglobulin, thyroid peroxidase and sodium/iodine symporter.
- Biopsy to be done when there is doubt regarding the diagnosis (lesions persisting beyond 24 hrs, non-blanchable, fever, joint pains etc.).

**Management:** Same as levels 1& 2. For the patients referred from Level-1 or 2, treatment given in Level-1 &/or 2 may be continued if appropriate for the presenting condition or the case may be reassessed for the totality of symptoms and treatment may be given accordingly.

For new cases at this level, the totality of symptoms presented by the patient is the sole indicative and guide for treating each patient.

In addition to the level 1 and level 2 management strategies, homoeopathy has a number of remedies that can ease pain and other symptoms in patients in those who have not responded to treatment due to a lack of symptoms, co-morbid conditions, or the use of other immune suppressive, oral hypoglycemic agents, or antihypertensive. Medications can therefore be prescribed based on the sphere of action or keynote symptoms as a part of supportive management in these disorders as well as other advanced pathological states. There are

remedies which can be used during acute exacerbation conditions. Some of the remedies which can be considered are given below<sup>36-41</sup>.

| Sr. No. | Medicines*                  | Dose form*                                                                                                                                                                                  | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                                                                                                        |
|---------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Anacardium orientale</b> | *Varies as per the need of the case, depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | <b>Mother tincture-</b><br>Grindelia Robusta Q,<br>Fagopyrum Esculentum Q,<br>Hygrophila spinosa Q<br><br><b>Schussler's biochemic remedies</b> (Ferrum phosphoricum, Natrum muriaticum, Natrum phosphoricum,) may also be prescribed as per the need of the case |
| 2.      | <b>Astacus fluviatilis</b>  |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 3.      | <b>Bovista lycoperdon</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 4.      | <b>Boletus luridus</b>      |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 5.      | <b>Chloralum hydratum</b>   |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 6.      | <b>Fragaria vesca</b>       |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 7.      | <b>Ichthyolum</b>           |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 8.      | <b>Medusa</b>               |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 9.      | <b>Natrium phosphoricum</b> |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |
| 10.     | <b>Rumex crispus</b>        |                                                                                                                                                                                             |       |       |           |                                                                                                                                                                                                                                                                   |

**Recommended Diet and Lifestyle:** Same as levels 1 & 2

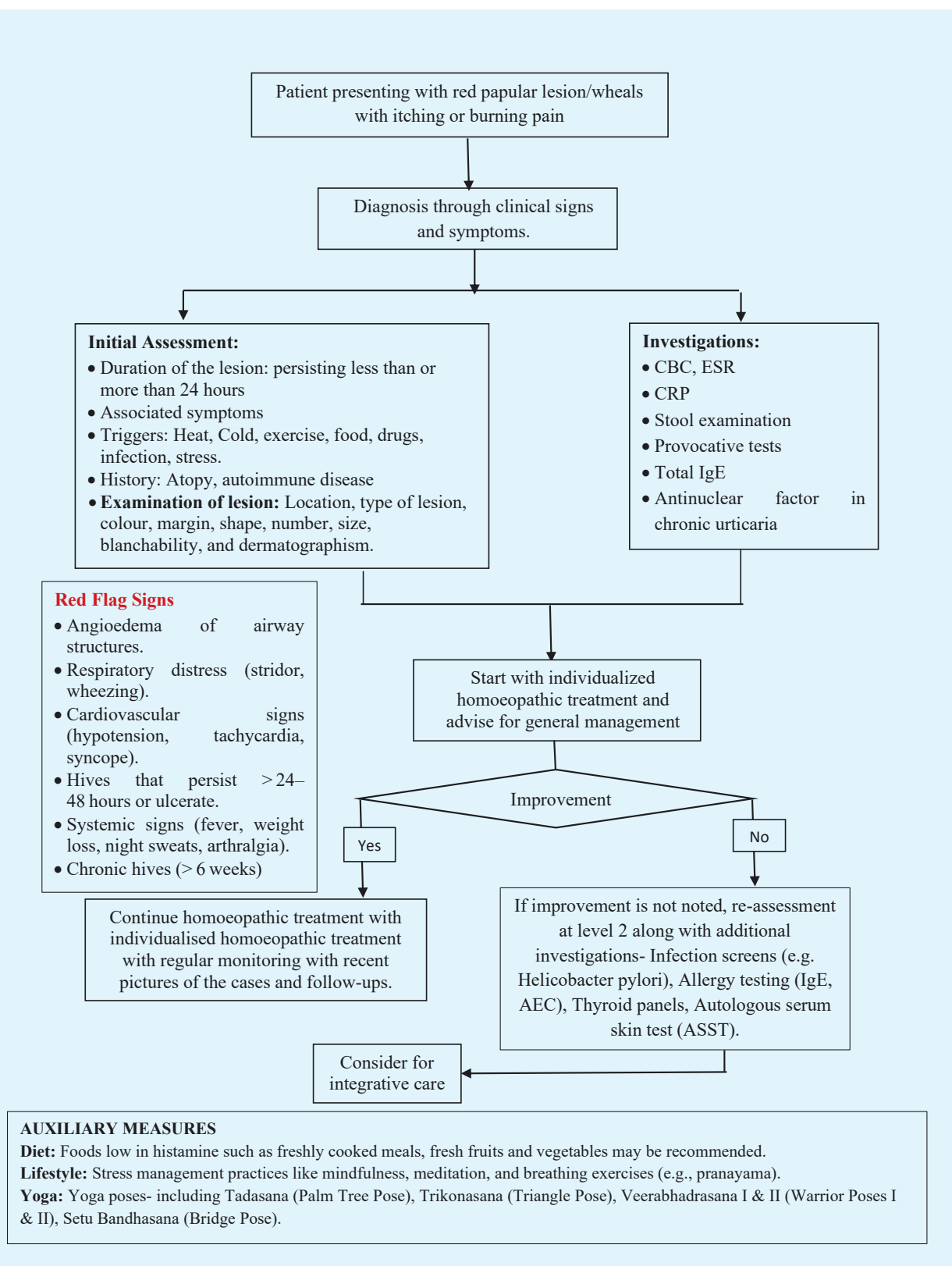
**Restricted Diet and Lifestyle:** Same as level 1 & 2

**Follow-up (every 7 days or earlier as per the need)**

**Referral criteria:**

- Same as mentioned earlier at Level 1 & 2, plus.
- Other modalities can be considered depending on the case.

## ALGORITHM OF TREATMENT PROCESS FOR URTICARIA



Indications of medicines for urticaria: <sup>37-41</sup>

| Sr. No. | Medicines                  | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                     | Characteristic particulars                                                                                                                                                                                                                          |
|---------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Apis mellifica</b>      | <p>Hot patient; thirstlessness; edematous, bag like puffy swelling under the eyes, glands enlarged and indurated.</p> <p>Constant whining, nothing seems to satisfy, irritable, sensitive to touch, cannot bear to be left alone, restlessness and fidgety, awkward drops things easily from hands, hard to please.</p> <p>Worse afternoon; closed, especially warm and heated rooms are intolerable; better from cold application.</p> | <ul style="list-style-type: none"> <li>• Sudden red, swollen hives; intolerable stinging itching.</li> <li>• Better from cold applications and open air.</li> <li>• Worse from heat and touch; often with angioedema of eyelids or lips.</li> </ul> |
| 2.      | <b>Arsenicum album</b>     | <p>Chilly patient; weak, rapid disproportionate prostration; burning pains better by heat (except headache) increased thirst, drinks often but little at a time; craves milk; cadaveric odour of discharges and body.</p> <p>Anxiety, restlessness, fretful, wants to be carried, anguish, fear for death and restlessness.</p>                                                                                                         | <ul style="list-style-type: none"> <li>• Itching, burning swelling; worse from cold, scratching, and after midnight.</li> <li>• Better from warmth and warm drinks; anxious, restless state.</li> </ul>                                             |
| 3.      | <b>Antimonium crudum</b>   | <p>It is pre-eminently a scrofulous remedy. Chilly patient. Excessive irritability and fretfulness with thickly coated white tongue, dry lips. Saltish saliva. Slimy mucus. for children and old people with tendency to grow fat. Sentimental mood. Children cannot bear to be touched or looked at.</p> <p>Desire for acids, pickles. All the conditions are aggravated by heat and cold bathing.</p>                                 | <ul style="list-style-type: none"> <li>• Thick hard scabs; white wheals with red halo; scratching causes soreness.</li> <li>• better from warm applications; often associated with digestion issues.</li> </ul>                                     |
| 4.      | <b>Antipyrinum</b>         | <p>Antipyrine is one of the drugs that induce leucocytosis, similar to ergotin, salicylates, and tuberculin. Acts especially on the vaso-motor centers, causing dilation of capillaries of skin and consequent circumscribed patches of hypercemia and swelling.</p>                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Urticaria, appearing and disappearing suddenly, with internal coldness.</li> </ul>                                                                                                                         |
| 5.      | <b>Astacus fluviatilis</b> | <p>Urticaria after shellfish ingestion or with GI disturbance.</p>                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Indicated in seafood-related eruptions.</li> <li>• Linked with liver or digestive dysfunction.</li> <li>• Watery hive eruption.</li> </ul>                                                                 |

| Sr. No. | Medicines                   | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Characteristic particulars                                                                                                                                                                                                                                                               |
|---------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.      | <b>Anacardium orientale</b> | <p>Apt to choke when eating and drinking; swallows' food and drink hastily; symptoms disappear while eating.</p> <p>Absent-mindedness very easily offended. Sudden loss of memory; disposed to be malicious, seems bent on wickedness; lack of confidence in himself and others.</p>                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Urticaria with intense itching and mental irritability.</li> <li>• Burning, scratching worsens; worse with hot water, better with food and rubbing.</li> </ul>                                                                                  |
| 7.      | <b>Belladonna</b>           | <p>Congestion is the keynote of the medicine; hot, red skin, flushed face, glaring eyes, throbbing carotids. Sudden, violent effects; burning heat; bright redness; throbbing pains, appear and disappear suddenly. Thirstless, Dryness of mouth and throat with aversion to water. Right-sided complaints.</p> <p>Excited mental state, delirium, restless sleep, convulsive movements. Wildly delirious, restless, sensitive, nervous; child jovial and entertaining when well but violent when sick.</p> <p>Ailments from: sudden exposure to sun or heat, acute inflammation. Worse, touch, jar, noise, draught, after noon, lying down. Better, semi-erect.</p> | <ul style="list-style-type: none"> <li>• Dry and hot; swollen, sensitive skin.</li> <li>• Alternate redness and paleness of the skin.</li> </ul>                                                                                                                                         |
| 8.      | <b>Bovista lycoperdon</b>   | <p>Enlarged sensation. Adapted to stammering children, old maids with palpitation and tettery patients.</p> <p>Awkward and everything falls from hands.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Covers body with burning itching hives.</li> <li>• Worse at night; linked with diarrhea.</li> <li>• Impressions from blunt instruments; rheumatic lameness.</li> <li>• Urticaria on excitement, on waking in morning, worse bathing.</li> </ul> |
| 9.      | <b>Boletus luridus</b>      | Violent pain in epigastrium.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Urticaria tuberosa.</li> </ul>                                                                                                                                                                                                                  |
| 10.     | <b>Chloralum hydratum</b>   | Intense itching urticaria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Periodic intense night-time itching.</li> <li>• Cold aggravation improved by warmth; erythematous wheals.</li> <li>• May resemble drug-induced urticarial</li> <li>• Urticaria &lt; spirituous liquors, hot drinks.</li> </ul>                  |
| 11.     | <b>Copaiva officinalis</b>  | Acts powerfully on mucous membranes, especially that of the urinary tract, the respiratory organs, and the skin, here producing a well-marked nettle-rash.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Hives, with fever and constipation.</li> <li>• Chronic urticaria in children.</li> </ul>                                                                                                                                                        |

| Sr. No. | Medicines                | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Characteristic particulars                                                                                                                                                                                                                                              |
|---------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12.     | <b>Dulcamara</b>         | <p>Chilly patient. The rheumatic troubles induced by damp cold are aggravated by every cold change and somewhat relieved by moving about. Results from sitting on cold, damp ground.</p> <p>Restless and irritable.</p> <p>Worse by exposure to cold, sudden change of temperature, damp rainy weather, getting feet cold; Better warmth, dry weather.</p>                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Violent itching worsened by warmth; rash appears after damp weather exposure.</li> <li>Accompanied by cough, edema, digestive symptoms.</li> </ul>                                                                               |
| 13.     | <b>Fragaria vesca</b>    | <p>Strawberries produce symptoms of poisoning in certain susceptible individuals, such as urticarial rashes (strawberry anaphylaxis).</p> <p>Worse during hot weather.</p>                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Urticaria; petechial and erysipelalous eruptions.</li> <li>Swelling of whole body.</li> </ul>                                                                                                                                    |
| 14.     | <b>Ichthyolum</b>        | <p>Its action on skin, mucous membranes is prompt and useful.</p> <p>Irritable and depressed. Forgetful, lack of concentration.</p>                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Chronic hives.</li> <li>Heat and irritation; itching.</li> </ul>                                                                                                                                                                 |
| 15.     | <b>Ignatia amara</b>     | <p>It is especially adapted to the nervous temperament women of sensitive, easily excited nature, dark, mild disposition, quick to perceive, rapid in execution. Rapid change of mental and physical condition, opposite to each other.</p> <p>Great contradictions. Alert, nervous, apprehensive, rigid, trembling patients who suffer acutely in mind or body, at the same time made worse by drinking coffee.</p>                                                                                                                          | <ul style="list-style-type: none"> <li>Itching, nettle-rash.</li> <li>Very sensitive to draught of air.</li> <li>Worse, in the morning, open air, after meals, coffee, smoking, liquids, external warmth.</li> <li>Better, while eating, change of position.</li> </ul> |
| 16.     | <b>Medusa</b>            | <p>Whole face puffed oedematous-eyes, nose, ears, lips. Numbness; burning, pricking heat.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Vesicular eruption especially on face, arms, shoulders, and breasts.</li> <li>Nettlerash.</li> </ul>                                                                                                                             |
| 17.     | <b>Natrum muriaticum</b> | <p>Hot patient, poorly nourished, great emaciation (marked on neck); losing flesh while living well; craving for salt; aversion to bread and fatty things; constipated; increased thirst; mapped tongue with red insular patches.</p> <p>Melancholic, sad, plays alone, irritable, cross, cries when spoken to; awkward, hasty, drops things from nervous weakness; disposition to weep without cause, consolation aggravates.</p> <p>Worse: lying down, talking. Better: open air, going without regular meals, lying on the right side.</p> | <ul style="list-style-type: none"> <li>Stinging-burning rash, whitish wheals on arms/hands, over whole body, after violent exercise.</li> </ul>                                                                                                                         |

| Sr. No. | Medicines                   | General Indications                                                                                                                                                                                                                                                                                                                                                                                                   | Characteristic particulars                                                                                                                                                                         |
|---------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18.     | <b>Natrum phosphoricum</b>  | Remedy for conditions arising from excess of lactic acid, often resulting from too much sugar.<br><br>Sour eructations and taste. Sour vomiting. Yellow, creamy coating at the back of the roof of mouth and tongue.<br><br>Ailments, with excess of acidity.                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Urticaria with itching worse at night.</li> <li>• Papules around joints, related to acidity.</li> <li>• Acid reflux common.</li> </ul>                    |
| 19.     | <b>Nux vomica</b>           | Chilly patient; thin, prone to indigestion; tongue coated yellowish in the posterior part; thirstlessness; oversensitive to all external impressions: noise, odours, light or music.<br><br>Nervous disposition. Spare, quick, active, zealous, and irritable, impatient, spiteful with violent action. Nervous disposition, irritable, angry and impatient.<br><br>Craves fatty, spicy food, meat, alcoholic drinks. | <ul style="list-style-type: none"> <li>• Urticaria with gastric derangement.</li> <li>• Pricking-burning itch in morning/evening or undressing/night.</li> <li>• Blotchy red eruptions.</li> </ul> |
| 20.     | <b>Pulsatilla nigricans</b> | Hot patient; marked changeability of symptoms; aversion to fatty foods, warm foods and drinks, dislikes butter; thirstless with great dryness of mouth; tongue coated yellow or whitish.<br><br>Desire for company; mild, gentle, affectionate, yielding, weeping disposition.<br><br>Worse towards evening and in warm room, better in open air, by slow, gentle motion and cold applications.                       | <ul style="list-style-type: none"> <li>• Urticaria after rich food or delayed menses.</li> <li>• Burning pricking itch in evening/night, worse in bed.</li> </ul>                                  |
| 21.     | <b>Rhus toxicodendron</b>   | Chilly patient; sore, body bruised and stiff; restless, can't rest in any position; red triangular tip of tongue; unquenchable thirst.<br><br>Great apprehension at night, sad, anxious; weeping without knowing why.<br><br>Desire for cold milk; worse in damp, cold, rainy weather, during rest and sleep, better by continued motion.                                                                             | <ul style="list-style-type: none"> <li>• Red swollen itchy hives; burning after scratching.</li> <li>• Worse cold damp, better warmth and motion.</li> </ul>                                       |
| 22.     | <b>Rhus venenata</b>        | Great melancholy; no desire to live, gloomy.                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Itching; relieved by hot water.</li> <li>• Nose red and shiny. Face swollen.</li> </ul>                                                                   |
| 23.     | <b>Rumex crispus</b>        | For tubercular diathesis, extremely sensitive skin and mucous membranes. Extremely sensitive to open air.                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Urticaria on lower limbs; pricking itch.</li> <li>• Worsened by cold, open air, undressing, better warmth</li> </ul>                                      |

| Sr. No. | Medicines                | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Characteristic particulars                                                                                                                                                                                                                                                                                              |
|---------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                          | It diminishes the secretions of mucous membranes, and at the same time exalts sensibility of the mucous membranes of the larynx and trachea. Its action upon the skin is marked, producing intense itching. Lymphatics enlarged and secretions perverted.                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                         |
| 24.     | <b>Sepia officinalis</b> | <p>Chilly patient; tall, thin built with yellow saddle across upper part of cheeks and nose, big belly; dry flabby skin. Predisposed to take cold at change of weather.</p> <p>Cheerful, active when well but indifferent and quarrelsome when sick; self absorbed, sad, weeping and indolent.</p> <p>Desire for sour food which aggravates.</p>                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Urticaria on going in open air; better in warm room.</li> </ul>                                                                                                                                                                                                                |
| 25.     | <b>Sulphur</b>           | <p>Hot patient, kicks off the cloth at night; dirty, filthy, does not want to be washed; lean, thin, stoop-shouldered; child who walks and sit stooping; prone to skin affections, venous congestions; have a very weak and faint feeling about 11 a.m. and must have something to eat; have burning heat on palms and soles especially at night, red orifices; when the best selected remedy fails to improve.</p> <p>Restless, quick tempered.</p> <p>Desires sweets, sugar, meat. Worse from standing, at night</p> | <ul style="list-style-type: none"> <li>• Itching, burning over body; worse at night, after washing.</li> <li>• Voluptuous itching relieved by scratching; dirty/dirty feeling skin; dry, filthy people typical.</li> </ul>                                                                                              |
| 26.     | <b>Uva ursi</b>          | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Urticaria without itching.</li> </ul>                                                                                                                                                                                                                                          |
| 27.     | <b>Urtica urens</b>      | A remedy for agalactia and lithiasis. Profuse discharge from mucous surfaces. Enuresis and urticaria. Spleen affections. Antidotes ill-effects of eating shellfish. Symptoms return at the same time every year. Gout and uric acid diathesis. Favors elimination.                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Raised red blotches, burning heat with formication, violent itching.</li> <li>• Relieved by rubbing; periodic recurrence, sometimes after shellfish ingestion; sometimes angioneurotic oedema.</li> <li>• Allergic type urticaria with intense burning and itching.</li> </ul> |

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# 05

## VITILIGO





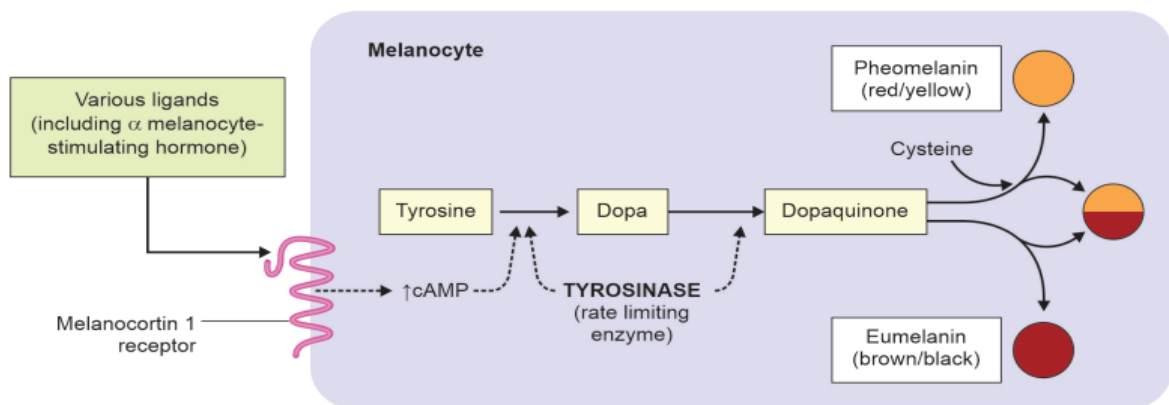
# VITILIGO

(ICD 10: L80)  
(ICD 11: ED63.0)

## CASE DEFINITION: <sup>1,2,3,4</sup>

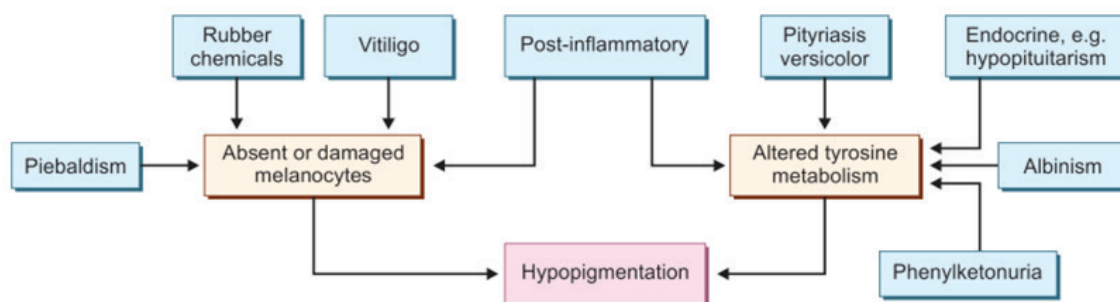
Vitiligo is a chronic, acquired autoimmune skin disorder characterized by well-demarcated hypopigmented or depigmented macules and patches resulting from the selective destruction of melanocytes in the epidermis. It may affect the skin, mucous membranes, and hair follicles, and can be associated with systemic autoimmune conditions such as thyroiditis, uveitis, and sensorineural hearing loss.

Before addressing vitiligo, it is important to understand the basic target cell that is affected by the disease, and for that a basic overview of the melanin pathway is essential. Melanin is formed from the essential amino acids tyrosine and phenylalanine through a series of enzymatic steps in the liver and skin. Tyrosine is formed in the liver by the hydroxylation of the essential amino acid phenylalanine under the influence of phenylalanine hydroxylase, which is in turn converted to DOPA and further into the pigment under the influence of tyrosinase enzyme (Fig. 1). The melanin is made within the melanosomes which are of two types —eumelanosomes (containing eumelanin), or pheomelanosomes (containing pheomelanin). These melanosomes pass into the dendritic processes of the melanocyte to be further transferred into neighboring keratinocytes .



**Fig 1** Pathway of Melanogenesis

An overview of the disorders is given in the figure below and it must be noted and explicitly emphasized that it's only the disorders that have a loss of melanocytes can cause vitiligo and this contrast from disorders that cause decrease in melanin. (Fig 2)



**Fig 2** Overview of hypopigmentation disorders based on the main pathogenetic steps

## INTRODUCTION (Incidence/Prevalence, Morbidity/Mortality/Risk Factors) <sup>5-8</sup>

- Vitiligo, a common depigmenting skin disorder, has an estimated prevalence of 0.5–2% of the population worldwide. The prevalence of vitiligo is quite variable around the world, being more frequent in Africa (0.4%), Europe (0.4%), and Oceania (1.2%), than in North America (0.2%) and Asia (0.1%).
- In India, the reported prevalence of vitiligo ranges from approximately 0.5% to 2.5%, with some regional studies indicating even higher figures in specific populations.
- There is no difference in prevalence between races or genders. Females typically acquire the disease earlier than males. Onset may occur at any age, although about half of patients will have vitiligo by 20 years of age.
- It is broadly classified into nonsegmental vitiligo (NSV) and segmental (SV), with NSV being the most common form.
- Vitiligo significantly impacts patients' psychological and social well-being.

## Updates in pathogenesis and its relevance<sup>9-11</sup>

Various theories have been propounded for the causation of vitiligo which are listed in the box below:

1. Genetic predisposition
2. Autoimmune destruction of melanocytes.
3. Neural pathways (explains the stress and segmental type)
4. Metabolic abnormalities & oxidative stress - Accumulation of toxic metabolites and oxidants that damage melanocytes.
5. Selfdestruction of melanocytes (autocytodestructive)

The effect of these factors is largely confined to autoimmune damage which has a close relationship of specific immune cells and cytokines, which are important, as many new drugs have been approved to target the specific cytokines which helps to prevent “by-stander cells” and also helps to ensure targeted therapy

The autoimmune theory revolves around the role of CD8+ T-cells and T<sub>RM</sub> cells. The former is a cell that causes cell damage and the latter is a memory cell that leads to relapses. In fact formal studies have shown that biopsies of vitiligo show melanocyte destruction with presence of melanocytespecific CD8+T-cells as compared to controls. These T-cells result in cell damage apoptosis via the release of IFN-γ which mediates it action via JAK/STAT pathway.

## CLINICAL PRESENTATION<sup>8,12,13</sup>

- Vitiligo is clinically defined by the appearance of well-demarcated hypopigmented or depigmented macules and patches, resulting from the selective loss of functional melanocytes. These lesions are typically asymptomatic, though mild pruritus may occasionally be reported. In individuals with darker skin tones, the contrast between affected and unaffected areas is more pronounced. Lesion margins may exhibit intermediate hypopigmented zones, forming characteristic patterns such as trichrome or hypochromic vitiligo. Poliosis—depigmentation of hair within affected areas, often presenting as white locks on the scalp—is considered an indicator of deeper melanocyte involvement. Due to the absence of melanin, depigmented regions are more vulnerable to solar erythema. In cases of universal vitiligo, widespread depigmentation is observed. Additionally, lesions may develop at sites of skin trauma, a phenomenon known as koebnerization.

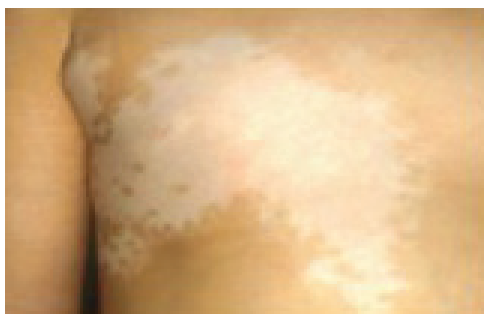
An international consensus in 2011 standardized the classification of vitiligo, distinguishing segmental vitiligo (SV) from all other forms, which were grouped under non-segmental vitiligo (NSV). The consensus also introduced mixed vitiligo—coexistence of SV and NSV in a single patient—as a clinically distinct subgroup, categorized under NSV due to similar pathophysiological behaviour.

### Clinical Subtypes of Vitiligo

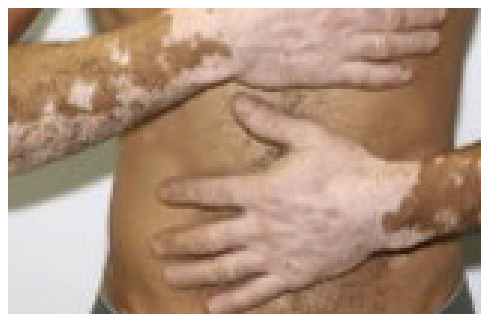
#### Expanded Classification<sup>12</sup> (Adapted from Ezzedine et al.)

| Type of Vitiligo                                                                                                                                                                                                                                                                                                                                                                                    | Subtypes                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. <b>Non-Segmental Vitiligo (NSV):</b> Non-Segmental Vitiligo (NSV): The most prevalent form, presenting as bilaterally symmetrical depigmented patches. Commonly affected sites include periorificial regions (around the mouth, eyes), dorsal fingers, and intertriginous zones. The distribution often corresponds to areas of repetitive mechanical trauma, reflecting the Koebner phenomenon. | <ul style="list-style-type: none"> <li>- Focal<sup>1</sup></li> <li>- Mucosal</li> <li>- Acrofacial</li> <li>- Generalized</li> <li>- Universal</li> <li>- Rare variants (e.g., leukoderma punctata, hypochromic vitiligo, follicular vitiligo)</li> </ul> |
| 2. <b>Segmental Vitiligo (SV):</b> Segmental Vitiligo (SV): Characterized by unilateral, localized depigmentation following a dermatomal pattern. It typically has an early onset, rapid stabilization, and limited progression, and is often resistant to conventional therapies.                                                                                                                  | <ul style="list-style-type: none"> <li>- Focal<sup>1</sup></li> <li>- Unisegmental</li> <li>- Bi- or multisegmental</li> </ul>                                                                                                                             |
| 3. <b>Mixed Vitiligo:</b> Mixed Vitiligo involves the simultaneous presence of segmental and non-segmental lesions in the same individual. It may show asymmetric distribution and is important to recognize for therapeutic and prognostic considerations.                                                                                                                                         | <ul style="list-style-type: none"> <li>- Coexisting SV and NSV</li> <li>- Further classified by SV severity</li> </ul>                                                                                                                                     |
| 4. <b>Unclassified Vitiligo:</b> Unclassified Vitiligo includes atypical or early-stage cases that do not fit clearly into the above categories. Examples include focal lesions at onset, asymmetrical multifocal patches, or isolated mucosal involvement.                                                                                                                                         | <ul style="list-style-type: none"> <li>- Focal onset</li> <li>- Multifocal asymmetrical NSV</li> <li>- Isolated mucosal involvement</li> </ul>                                                                                                             |

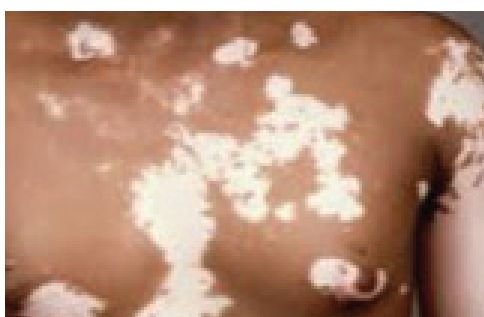
<sup>1</sup>Focal vitiligo may appear in both NSV and SV and is classified based on disease progression.



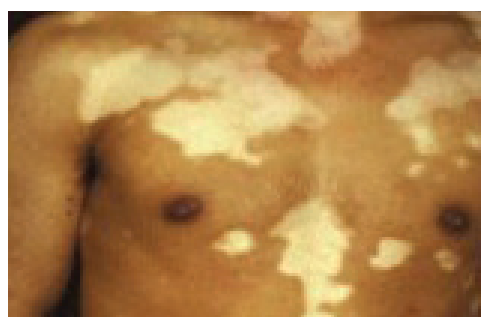
**Figure 3-** Segmental vitiligo, unilateral depigmented patches over the chest and arm, characteristic of segmental vitiligo with dermatomal distribution



**Figure 4-** Acrofacial Vitiligo (non-segmental type, depigmented macules limited periorificial areas, distal extremities and/or face



**Figure 5-** Generalized vitiligo, bilateral, often symmetrical, depigmented macules or patches



**Figure 6-** Trichrome Vitiligo, multiple depigmented macules on the chest and shoulders, showing a trichrome pattern.

## CLINICAL EXAMINATION <sup>8,14,15</sup>

Important points of history that are helpful in the diagnosis of vitiligo include:

- Age at onset of lesions
- Factors or events that may cause the onset of vitiligo
- Symptoms associated with the lesions
- Progression or spread of lesions
- Changes observed in lesions over time
- Presence of concomitant diseases
- Current medications
- Occupational history/exposure to chemicals or radiation
- Family history of vitiligo and autoimmune diseases

Physical Examination of Vitiligo will include these features:

- The most affected areas include the face, neck, forearms, dorsal hands, fingers, feet, and scalp. On the face, lesions typically show a periorcular or perioral distribution.
- In cases of generalized involvement, lesions may also be seen on the areolae, nipples, and genital region. Sites frequently exposed to friction or trauma—such as bony prominences

(elbows, knees)—are often involved, which may reflect the Koebner phenomenon, observed in 20–60% of vitiligo cases.

- Vitiligo manifests as depigmented macules or patches with a convex border without signs of inflammation with normal skin around.
- Macules are milky-white in color, well-demarcated with any shape
- Ranges in size from a few millimeters to a few centimeters.
- Signs of other associated diseases may also be present like goiter, anemia, generalized wasting, premature grey hairs, alopecia areata and weakness, etc
- Leukotrichia, or depigmentation of body hair within vitiliginous macules, may be noted during examination and is considered a marker of poor response to repigmentation therapies, as spontaneous recovery of pigment in affected hair is uncommon.

## DIFFERENTIAL DIAGNOSIS <sup>5,16-19</sup>

As has been depicted in the figures above, the loss of melanocytes is not seen in many disorders and chemical leukoderma and piebaldism are the only two disorders that can be mistaken for vitiligo. Rest of the disorder are hypopigmented and not depigmented. Thus, the clinician should distinguish between these two entities.

The following diseases must be considered in differential diagnosis of Vitiligo:

| Category                             | Condition                   | Differential Features                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chemically Induced Leukoderma</b> | Occupational leukoderma     | <ul style="list-style-type: none"> <li>• Local loss of skin pigmentation resulting in white patches.</li> <li>• Depigmentation due to repeated exposure to phenols, catechols, PPD, hand rubs &amp; rubber chemicals.</li> <li>• Affects contact areas.</li> </ul>                                                                           |
|                                      | Drug-induced depigmentation | <ul style="list-style-type: none"> <li>• Topical (e.g., corticosteroids, imiquimod) or systemic drugs (e.g., chloroquine); typically, localized and reversible.</li> <li>• Are Never depigmented hence are not a close differential of vitiligo</li> </ul>                                                                                   |
| <b>Genetic Syndromes</b>             | Hypomelanosis of Ito        | <ul style="list-style-type: none"> <li>• Whorled, streaked hypopigmentation along Blaschko's lines; associated with neurologic or skeletal abnormalities.</li> <li>• Congenital and hence easily differentiated as vitiligo is rarely congenital</li> </ul>                                                                                  |
|                                      | Piebaldism                  | <ul style="list-style-type: none"> <li>• Stable congenital leukoderma with white forelock and depigmented patches.</li> <li>• Melanocyte absence.</li> <li>• Arranged symmetrically on limbs, trunk and central part of the face, especially the chin</li> <li>• Typically, patients have pigmented islands within white patches.</li> </ul> |

| Category                                  | Condition                              | Differential Features                                                                                                                                                      |
|-------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           |                                        | Waardenburg Syndrome <ul style="list-style-type: none"> <li>• Depigmentation + sensorineural deafness, often a white forelock.</li> </ul>                                  |
|                                           | Tuberous sclerosis                     | <ul style="list-style-type: none"> <li>• Hypopigmented ash-leaf macules; may have seizures and other systemic signs.</li> <li>• Congenital and genetic disorder</li> </ul> |
|                                           | Griscelli Syndrome                     | <ul style="list-style-type: none"> <li>• Silvery-grey hair, partial albinism, immune defects.</li> <li>• Congenital and genetic disorder</li> </ul>                        |
|                                           | Hermansky–Pudlak Syndrome              | <ul style="list-style-type: none"> <li>• Oculocutaneous albinism, bleeding tendency, pulmonary fibrosis.</li> </ul>                                                        |
|                                           | Menkes Syndrome                        | <ul style="list-style-type: none"> <li>• X-linked disorder of copper metabolism;</li> <li>• Hypopigmentation, kinky hair,</li> <li>• Neurological symptoms.</li> </ul>     |
|                                           | Ziprkowski-Margolis Syndrome           | <ul style="list-style-type: none"> <li>• Rare; features include pigmentary anomalies and developmental delays.</li> </ul>                                                  |
| <b>Post-inflammatory Hypopigmentation</b> | Pityriasis alba                        | <ul style="list-style-type: none"> <li>• Mild, scaly, ill-defined hypopigmented patches,</li> <li>• Mostly in children; often on the face.</li> </ul>                      |
|                                           | Atopic dermatitis / contact dermatitis | <ul style="list-style-type: none"> <li>• Hypopigmented areas after eczema resolves;</li> <li>• Irregular margins.</li> </ul>                                               |
|                                           | Lichen planus                          | <ul style="list-style-type: none"> <li>• White patches with violaceous border</li> </ul>                                                                                   |
|                                           | Psoriasis                              | <ul style="list-style-type: none"> <li>• Hypopigmented post-inflammatory areas after lesion resolution.</li> </ul>                                                         |
|                                           | Toxic drug reactions                   | <ul style="list-style-type: none"> <li>• Hypopigmentation post-drug rash</li> </ul>                                                                                        |
|                                           | Post-traumatic scars                   | <ul style="list-style-type: none"> <li>• Depigmented areas over healed wounds or burns.</li> </ul>                                                                         |
|                                           | Radiotherapy induced                   | <ul style="list-style-type: none"> <li>• Focal hypopigmentation in irradiated/treated sites.</li> </ul>                                                                    |
| <b>Neoplasm-Associated</b>                | Melanoma-associated leukoderma         | <ul style="list-style-type: none"> <li>• Paraneoplastic; associated with melanoma and immune reaction.</li> </ul>                                                          |
|                                           | Mycosis fungoides                      | <ul style="list-style-type: none"> <li>• Hypopigmented patches, (especially in children);</li> <li>• Requires biopsy.</li> </ul>                                           |
| <b>Infectious Hypomelanoses</b>           | Leprosy                                | <ul style="list-style-type: none"> <li>• Anaesthetic, hypopigmented patches;</li> <li>• Thickened nerves;</li> <li>• Endemic regions.</li> </ul>                           |
|                                           | Pityriasis versicolor                  | <ul style="list-style-type: none"> <li>• Fine scaling, upper trunk,</li> <li>• Wood's lamp shows Yellow-green fluorescence.</li> </ul>                                     |
|                                           | Leishmaniasis                          | <ul style="list-style-type: none"> <li>• Hypopigmentation after healing of cutaneous lesions.</li> </ul>                                                                   |

| Category                        | Condition                         | Differential Features                                                                                                                                                                                                               |
|---------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | Onchocerciasis                    | <ul style="list-style-type: none"> <li>“Leopard skin” depigmentation in endemic African areas.</li> </ul>                                                                                                                           |
|                                 | Treponematoses (pinta, syphilis)  | <ul style="list-style-type: none"> <li>Rare; hypopigmentation in later stages of infection.</li> </ul>                                                                                                                              |
| <b>Idiopathic Hypomelanoses</b> | Idiopathic guttate hypomelanosis  | <ul style="list-style-type: none"> <li>Multiple, small, round white macules on shins/forearms in elderly; melanocytes preserved.</li> </ul>                                                                                         |
|                                 | Progressive macular hypomelanosis | <ul style="list-style-type: none"> <li>Hypopigmented patches on trunk;</li> <li>Wood’s lamp shows orange-red follicular fluorescence.</li> </ul>                                                                                    |
| <b>Congenital Hypomelanoses</b> | Nevus depigmentosus               | <ul style="list-style-type: none"> <li>Stable, congenital, well-demarcated patch with serrated borders; does not enlarge.</li> </ul>                                                                                                |
|                                 | Nevus anemicus                    | <ul style="list-style-type: none"> <li>Vascular anomaly: pale area that does not fill with blood when stroked or exposed to heat.</li> </ul>                                                                                        |
| <b>Other Conditions</b>         | Lichen sclerosus et atrophicus    | <ul style="list-style-type: none"> <li>White, atrophic plaques, often in genital area; scarring possible.</li> </ul>                                                                                                                |
|                                 | Tinea versicolor                  | <ul style="list-style-type: none"> <li>Develops when too much yeast grows on your skin. The excessive yeast leads to a rash that looks like round flat patches which can be lighter or darker than the surrounding skin.</li> </ul> |

## SUPPORTIVE INVESTIGATION <sup>20-25</sup>

While vitiligo is primarily diagnosed clinically, a skin biopsy may occasionally be performed to distinguish it from other hypopigmentary disorders. Further testing is indicated when signs or symptoms suggest other clinical conditions as associated autoimmune or endocrine conditions, such as thyroid disease, diabetes mellitus, pernicious anemia, Addison’s disease, or alopecia areata.

**Investigations may include:**<sup>26-32</sup>

| Test                                             | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Detailed history and Physical examination</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Complete Haemogram                               | <ul style="list-style-type: none"> <li>A Complete haemogram can help detect abnormalities in blood cell counts that may indicate the associated conditions such as anaemia, or polycythemia, chronic infection or inflammations, etc.</li> </ul>                                                                                                                                                                                                                                        |
| LFT and KFT                                      | <ul style="list-style-type: none"> <li>Vitiligo is often associated with other autoimmune diseases, including thyroid disease, pernicious anemia, diabetes, and Addison’s disease. Vitiligo is primarily diagnosed clinically, but Kidney Function Tests (KFT) and Liver Function Tests (LFT) are frequently included in the investigations to check for systemic autoimmune involvement, associated comorbidities, or to ensure safety before starting systemic treatments.</li> </ul> |

| Test                                                                   | Comment                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Advanced</b>                                                        |                                                                                                                                                                                                                                                                                       |
| Wood's Lamp Examination                                                | <ul style="list-style-type: none"> <li>Especially helpful in fair-skinned individuals, this handheld UV light highlights vitiligo patches with a bright blue-white fluorescence, making early or subtle lesions easier to detect.</li> </ul>                                          |
| Thyroid panel: TSH, free T3, free T4, Anti-thyroid peroxidase antibody | <ul style="list-style-type: none"> <li>Thyroid functional problems and autoimmune thyroid diseases have been linked to vitiligo. The two most significant and prevalent autoimmune thyroid conditions connected to vitiligo are Hashimoto thyroiditis and Graves' disease.</li> </ul> |
| Antinuclear antibody (ANA)                                             | <ul style="list-style-type: none"> <li>ANAs are crucial for the identification of systemic autoimmune rheumatic disorders (SARDs) or any organ-specific autoimmune diseases.</li> </ul>                                                                                               |

## DIAGNOSTIC CRITERIA <sup>33</sup>

Vitiligo is typically diagnosed clinically, based on the presence of acquired, amelanotic, non-scaly, chalky-white macules with well-defined margins. These lesions often follow characteristic distribution patterns, including periorificial areas, lips, distal extremities, genitalia, segmental zones, and sites of friction.

Confirmatory laboratory investigations are generally unnecessary, except when required to rule out other differential diagnoses.

Histopathological examination of the central portion of a vitiligo lesion reveals complete loss of melanin pigment in the epidermis and an absence of melanocytes. Occasionally, lymphocytic infiltration may be observed at the advancing margins of the lesions, suggesting active disease progression.

### Assessment Tools for Extent and Severity:

| Tool                                             | Comments                                                                                                                                                                         |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>VASI (Vitiligo Area Scoring Index)</b>        | <ul style="list-style-type: none"> <li>Widely used in clinical trials; validated for assessing extent and depigmentation.</li> </ul>                                             |
| <b>VES (Vitiligo Extent Score)</b>               | <ul style="list-style-type: none"> <li>Validated for clinical use and has high intra- and inter-rater reliability. Self-administered version (SA-VES) also validated.</li> </ul> |
| <b>VIDA (Vitiligo Disease Activity Score)</b>    | <ul style="list-style-type: none"> <li>Simple clinical scale validated for assessing disease activity;</li> <li>Based on patient history.</li> </ul>                             |
| <b>VETF Score (Vitiligo European Task Force)</b> | <ul style="list-style-type: none"> <li>Comprehensive, validated scale used in research; include extent, stage, and spread.</li> </ul>                                            |
| <b>DLQI (Dermatology Life Quality Index)</b>     | <ul style="list-style-type: none"> <li>Broadly validated across dermatological conditions, including vitiligo.</li> </ul>                                                        |
| <b>Skindex-29 / Skindex-16</b>                   | <ul style="list-style-type: none"> <li>Skin-specific QoL instruments; validated in vitiligo and other conditions.</li> </ul>                                                     |
| <b>VIS (Vitiligo Impact Scale)</b>               | <ul style="list-style-type: none"> <li>Specifically developed and validated for assessing the psychosocial impact of vitiligo.</li> </ul>                                        |

The clinical criteria for the diagnosis of segmental vitiligo: <sup>34</sup>

|                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Essential criteria (major)</b>                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>Acquired depigmented macules occurring unilaterally not crossing the midline or with minimal spill onto the opposite side</li> </ul>                              |
| <ul style="list-style-type: none"> <li>Localized to a particular body area/site</li> </ul>                                                                                                               |
| <ul style="list-style-type: none"> <li>Patterned distribution including recognizable patterns, viz., blaschkoid, dermatomal, phylloid, checkerboard, linear/oblong or any other specific type</li> </ul> |
| <b>Additional criteria (minor)</b>                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Age at onset &lt;15 years</li> </ul>                                                                                                                              |
| <ul style="list-style-type: none"> <li>Leucotrichia &gt;50% over the affected lesion</li> </ul>                                                                                                          |
| <ul style="list-style-type: none"> <li>Leucotrichia extending beyond the margin</li> </ul>                                                                                                               |
| <ul style="list-style-type: none"> <li>Presence of islands of normal or hyperpigmentation within the lesion or segment without treatment</li> </ul>                                                      |
| <ul style="list-style-type: none"> <li>Margins &gt;50% irregular/straight line</li> </ul>                                                                                                                |
| <ul style="list-style-type: none"> <li>Stability achieved in disease progression by 1 year</li> </ul>                                                                                                    |
| <i>Patients fulfilling all essential and one or more of the additional criteria are classified as segmental vitiligo and remaining patients as nonsegmental vitiligo.</i>                                |

## PRINCIPLES OF MANAGEMENT <sup>4,10</sup>

The principles of management include assessment of signs and symptoms before initiating treatment and the need for management through conventional treatment for associated co morbidities. If the patient is already under standard care, the physician may advise to continue the same along with add-on homoeopathy and can be assessed for the same in the follow ups for tapering or discontinue the treatment in consultation with the conventional physician.

It must be noted that the therapy should address two key issues:

1 Repigmentation

2. Stopping the Autoimmune process

As pigment cells are only present deep in the hair follicles, treatments mostly try to get melanocytes to divide and migrate into affected skin. The aims of vitiligo treatment are repigmentation and stabilization of the depigmentation process. In addition, agents that help to ameliorate the oxidative stress are a useful adjunct. The choice of therapy depends on the extent, location, and activity of disease as well as the patient's age, skin type and motivation to undergo treatment. In general, a period of at least 2–3 months is required to determine whether a particular treatment is effective. The areas of the body that typically have the best response to medical therapy are the face, neck, midextremities and trunk, while the distal extremities and lips are the most resistant to treatment.

## Red Flag Signs

These signs should be assessed before initiating treatment for need for management/consultation through modern medicine.

- Rapidly spreading or widespread depigmentation – suggests active disease needing early intervention.
- Poliosis (white hair in lesions) – Indicates deep melanocyte loss; often resistant to treatment.
- Mucosal or genital involvement – Associated with higher psychosocial impact and poor response.
- Onset after age 60 or in infants – Atypical; consider alternative diagnoses (e.g., lymphoma, post-inflammatory changes).
- Associated autoimmune diseases – Screen for thyroid, diabetes, etc.

### (A) Prevention Management

The prevention and management of vitiligo involve a three-tiered approach: primary, secondary, and tertiary prevention.

- **Primary prevention** aims to reduce the risk of disease onset by avoiding known triggers such as skin trauma, chemical exposure, and excessive sunburn, while promoting immune health through stress management, a balanced antioxidant-rich diet, and healthy lifestyle practices.
- **Secondary prevention** focuses on early identification and prompt treatment to prevent disease progression, along with sun protection and regular monitoring using validated tools like the VIDA score.
- **Tertiary prevention** is directed toward managing established vitiligo, enhancing repigmentation through individualized therapy, addressing psychosocial concerns with counseling, improving cosmetic appearance, and monitoring for associated autoimmune conditions.

### Diet<sup>35</sup>

Emerging evidence suggests that nutritional modulation may aid in vitiligo prevention and management by supporting melanocyte health and reducing oxidative stress. A diet rich in antioxidants, vitamins, and minerals is recommended.

- Recommended dietary components:
- Antioxidants (Vitamin C, E,  $\beta$ -carotene, selenium, zinc)
- Folic acid, Vitamin B12, and Copper (important for melanogenesis)
- Phytochemicals (from fruits, vegetables, green tea, turmeric)

### Lifestyle<sup>36</sup>

Lifestyle practices that reduce physical and psychological stress are vital, as stress is a known trigger for vitiligo onset and progression.

- Avoidance of skin trauma (e.g., tight clothing, cosmetic irritants) to reduce Koebner phenomenon
- Stress management techniques such as meditation, mindfulness, and counselling
- Adequate sun protection to prevent photodamage of depigmented skin
- Maintenance of sleep hygiene and regular circadian rhythms

## Yoga <sup>36</sup>

Yoga and related practices have shown beneficial effects in vitiligo, primarily through modulation of the immune system, stress reduction, and enhancement of systemic antioxidant status. Some of the practices found helpful are as follows:

- Pranayama (breathing exercises)
- Surya Namaskar (sun salutation)
- Shavasana, Yoga Nidra for relaxation
- Meditation to reduce anxiety and autoimmune activation

### (B) Interventions

**At Level 1-** Solo Physician Clinic/Health & Health Clinic/PHC (Optimal Standard of treatment in situation where technology and resources are limited)

**Clinical Diagnosis:** The diagnosis of vitiligo is primarily clinical based upon-

- Visual inspection
- Physical examination
- Detailed case history

In most cases, no laboratory investigations are required unless there are clinical signs suggestive of associated autoimmune or endocrine disorders. Patient counselling, reassurance, and early initiation of treatment can be effectively initiated.

### Management <sup>37-44</sup>

Research evidence highlights the considerable role of individualised homoeopathic medicines in the management of vitiligo. Published evidence from case reports case series, and research studies supports the individualized constitutional approach as central to successful treatment. The therapeutic strategy in homoeopathy depends on various factors, including the extent of depigmentation, disease activity (stable or progressive), presence of associated autoimmune conditions, and any concurrent conventional treatment that may suppress symptom expression. Vitiligo typically progresses through stages such as focal onset, generalized spread, and periods of stability or repigmentation. The timing of homoeopathic intervention in these stages influences the selection of remedies and overall prognosis.

Homoeopathy offers a holistic, individualized approach to vitiligo management, focusing on the root cause and promoting natural repigmentation without adverse effects. Unlike conventional allopathic treatments, which often rely on immunosuppressants or corticosteroids with potential side effects, homoeopathy is non-invasive and well-tolerated for long-term use.

Homoeopathy approaches vitiligo not merely as a local skin condition, but as an outward manifestation of an internal causation. Based on the constitutional and holistic principles of homeopathy, treatment is directed toward the totality of symptoms—encompassing physical, mental, and emotional dimensions of the patient. According to Dr. Samuel Hahnemann, the founder of homeopathy, “Diseases are not mechanical or local disturbances, but dynamic deviations of the vital force,” and skin eruptions often represent the externalization of internal disease (Organon of Medicine, Aphorism 7, 72, 153). Vitiligo, in this view, is treated by addressing the individual’s unique susceptibility, miasmatic background, and the underlying energetic imbalance rather than suppressing the lesion locally. This individualized approach

aims to restore systemic harmony, thereby promoting natural repigmentation and long-term resolution.

Several therapeutic medicines that share a common sphere of action on the skin are frequently prescribed in the management of vitiligo. These remedies are selected based on their symptom similarity and constitutional correspondence.

Flow-diagram for management is given at annexure I.

Some of the commonly prescribed medicines are as follows (indications of medicines are given at annexure II):

| Sr. No. | Medicines*                 | Dose form*                                                                                                                                                                                 | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                                                                                                                                                                                                         |
|---------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Arsenicum album</b>     | *Varies as per the need of the case depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | <b>Mother Tinctures</b> <ul style="list-style-type: none"> <li>• Psoralea corylifolia Q (also used as local application for non-progressive lesions followed by sun exposure).</li> <li>• Hydrocotyle asiatica Q</li> </ul> <b>Schussler's biochemic remedies</b><br>(Calcarea phosphorica, Natrum muriaticum) may also be prescribed as per the need of the case. |
| 2.      | <b>Calcarea carbonica</b>  |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 3.      | <b>Carcinosinum</b>        |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 4.      | <b>Lycopodium clavatum</b> |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 5.      | <b>Natrum muriaticum</b>   |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 6.      | <b>Nitricum acidum</b>     |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 7.      | <b>Phosphorus</b>          |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 8.      | <b>Sepia officinalis</b>   |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 9.      | <b>Sulphur</b>             |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |
| 10.     | <b>Thuja occidentalis</b>  |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                    |

### Dos and don'ts while taking homoeopathic medicine <sup>49</sup>

Patients taking homoeopathic medicine are advised not to eat, drink, smoke, for at least half an hour before or after taking medication and to avoid emotional stress, strains and excitement. No new habits or addictions should be indulged in while taking the medicine.

### Recommended Diet & Lifestyle <sup>50</sup>

The following dietary and lifestyle habits are advisable:

- Encourage a balanced, wholesome diet, rich in natural antioxidants (e.g., seasonal fruits, vegetables, and whole grains).
- Promote adequate hydration and avoidance of processed, fried, and excessively spicy foods.
- Recommend moderate sun exposure (preferably early morning) to support melanogenesis.
- Encourage stress reduction through techniques such as yoga, pranayama, or meditation, tailored to the patient's capacity.
- Emphasize hygiene, adequate sleep, and a routine daily regimen as supportive factors for immune regulation.

## Restricted Diet & Lifestyle

The following restrictions should be maintained, adapted for settings with minimal infrastructure:

- Avoid foods suspected to aggravate vitiligo (as per individual sensitivities), such as:
  - ✓ Excessively sour foods (e.g., citrus in excess,)
  - ✓ Seafood (especially shellfish, which may provoke hypersensitivity)
  - ✓ Artificial colorants and preservatives
- Discourage late-night sleep patterns, irregular meals, and mental stress, which may contribute to disease exacerbation.
- Advise patients to avoid skin trauma (scratching, excessive exfoliation) to prevent the Koebner phenomenon.
- Discourage use of topical steroids or harsh cosmetics without professional guidance.

**Follow Up** (Every 15 days or earlier as per the need)

## Referral Criteria

Patients with vitiligo should be referred to a higher-level facility (Level 2 or 3) under the following circumstances:

- **Uncertain Diagnosis** – Atypical presentation or diagnostic confusion with other hypopigmented disorders (e.g., leprosy, pityriasis alba, tinea versicolor).
- **Rapid Progression** – Sudden and extensive spread of depigmented lesions.
- **Mucosal or Extensive Involvement** – Vitiligo affecting genital mucosa, lips, eyelids, or involving >10% of body surface area.
- **Severe Psychological Distress** – Evidence of anxiety, depression, or social withdrawal due to cosmetic impact.
- **Unresponsive to Initial Management** – No improvement after a reasonable period of individualized care.
- **Suspected Associated Autoimmune Disorders** – Presence of signs suggestive of thyroid disease, diabetes, or adrenal insufficiency requiring investigation and specialist input.
- Uncontrolled comorbidities.
- Evidence of an increase in severity/complications.
- Non-response to treatment.
- Substantial impact on their quality of life and activities of daily living.

**At Level 2-** (CHC/Small hospitals (10-20 bedded hospitals with basic facilities such as routine, investigation, X-ray)

**Clinical Diagnosis:** Same as level 1. The case referred from Level 1, or a fresh case must be evaluated thoroughly for any complications.

**Investigations:** The diagnosis would be primarily clinical along with some investigations which will be necessary to investigate complications or exclude other differential diagnoses as follows:

- Complete Haemogram

**Management:** The clinical approach at Level 2 remains consistent with that of Level 1. For patients referred from Level 1, ongoing treatment may be continued if deemed appropriate for the current presentation. Alternatively, the case should be reassessed based on the totality of symptoms, and the treatment modified accordingly. In newly diagnosed cases at this level, the medicines recommended for Level 1 may also be considered. However, individualized treatment, guided solely by the totality of the patient's symptoms, remains the cornerstone of homeopathic management.

**Recommended Diet & Lifestyle:** Same as Level 1

**Restricted Diet & Lifestyle:** Same as Level 1

**Follow Up** (Every 15 days or earlier as per the need)

### Referral Criteria

Patients at Level 2 should be referred to higher centres under the following conditions:

- Same as mentioned earlier at level 1, plus
- No clinical improvement or worsening despite appropriate homoeopathic management.
- Complications requiring advanced diagnostic tools or specialty care.
- Need for multidisciplinary evaluation or emergency care.
- Non-responsiveness in suspected autoimmune, systemic, or rapidly progressing pathology.
- Diagnostic uncertainty requires investigation beyond the available infrastructure.
- Referral should be made to Ayush Level 3 or appropriate higher-level healthcare facilities with specialist services and comprehensive diagnostic setups.
- Any other complications that threaten the life of the patient.

**At Level 3-** Ayush hospitals are attached with teaching institutions, District Level/Integrated/State Ayush Hospitals, Tertiary care allopathic hospitals having Ayush facilities, and multiple departments/facilities for diagnosis and interventions. Additional facilities like dieticians, counselling, and physiotherapy must be provided.

**Clinical Diagnosis:** Same as Levels 1 & 2.

Confirm diagnosis and severity with the help of investigations such as:

- Thyroid function tests (TSH, fT3, fT4), anti-thyroid antibodies, ANA, fasting glucose levels, HbA1c.
- **Wood's lamp examination** can be used to enhance the visibility of depigmented lesions, particularly in fair-skinned individuals or early-stage disease. If needed, differential diagnosis from other hypopigmented conditions (e.g., pityriasis versicolor, post-inflammatory hypopigmentation) can be aided by routine investigations and clinical pattern recognition. (In case of clinical suspicion or doubt)

### Management

Same as levels 1 & 2. For the patients referred from Level-1 or 2, treatment given in Level-1 & or 2 may be continued if appropriate for the presenting condition or the case may be reassessed for the totality of symptoms and treatment may be given accordingly. For new cases at this level, the totality of symptoms presented of the patient is the sole indicative and guide for treating each patient.

In addition to the level 1 and level 2 management strategies, homoeopathy has a number of remedies that can alleviate the vitiligo in patients who have not responded to treatment due to a lack of symptoms, co-morbid conditions, or the use of other immune suppressive, oral hypoglycaemic agents, or antihypertensives. Medicine can, therefore, be prescribed on the basis of generalities and symptoms of co-morbid conditions, sphere of action or keynote symptoms as a part of supportive management in these disorders, as well as other advanced pathological states. Some remedies can be used during acute exacerbation conditions or any other intercurrent remedies. Some of the remedies which can be considered are given below.

45, 46, 47, 48

| Sr. No. | Medicines*                          | Dose form*                                                                                                                                                                                 | Dose* | Time* | Duration* | Adjuvants*                                                                                                                                                                                                                                                                                                                                                      |
|---------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Arsenicum sulphuratum flavum</b> | *Varies as per the need of the case depending upon various factors such as age, chronicity of complaints, severity (acute or chronic), stage and site of disease, nature of medicine, etc. |       |       |           | <b>Mother Tinctures</b> <ul style="list-style-type: none"> <li>• Psoralea corylifolia Q (also used as local application for non-progressive lesions followed by sun exposure).</li> <li>• Hydrocotyle asiatica Q</li> </ul> <b>Schussler's biochemic remedies</b> (Calcarea phosphorica, Natrum muriaticum) may also be prescribed as per the need of the case. |
| 2.      | <b>Baryta carb.</b>                 |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 3.      | <b>Caladium senguinum</b>           |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 4.      | <b>Fluoricum acidum</b>             |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 5.      | <b>Hydrocotyle asiatica</b>         |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 6.      | <b>Magnesium muriaticum</b>         |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 7.      | <b>Mezereum</b>                     |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 8.      | <b>Kalium arsenicosum</b>           |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 9.      | <b>Kalium sulphuricum</b>           |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 10.     | <b>Plumbum metallicum</b>           |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 11.     | <b>Psorinum</b>                     |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |
| 12.     | <b>Syphilinum</b>                   |                                                                                                                                                                                            |       |       |           |                                                                                                                                                                                                                                                                                                                                                                 |

**Recommended Diet & Lifestyle:** Same as levels 1 & 2

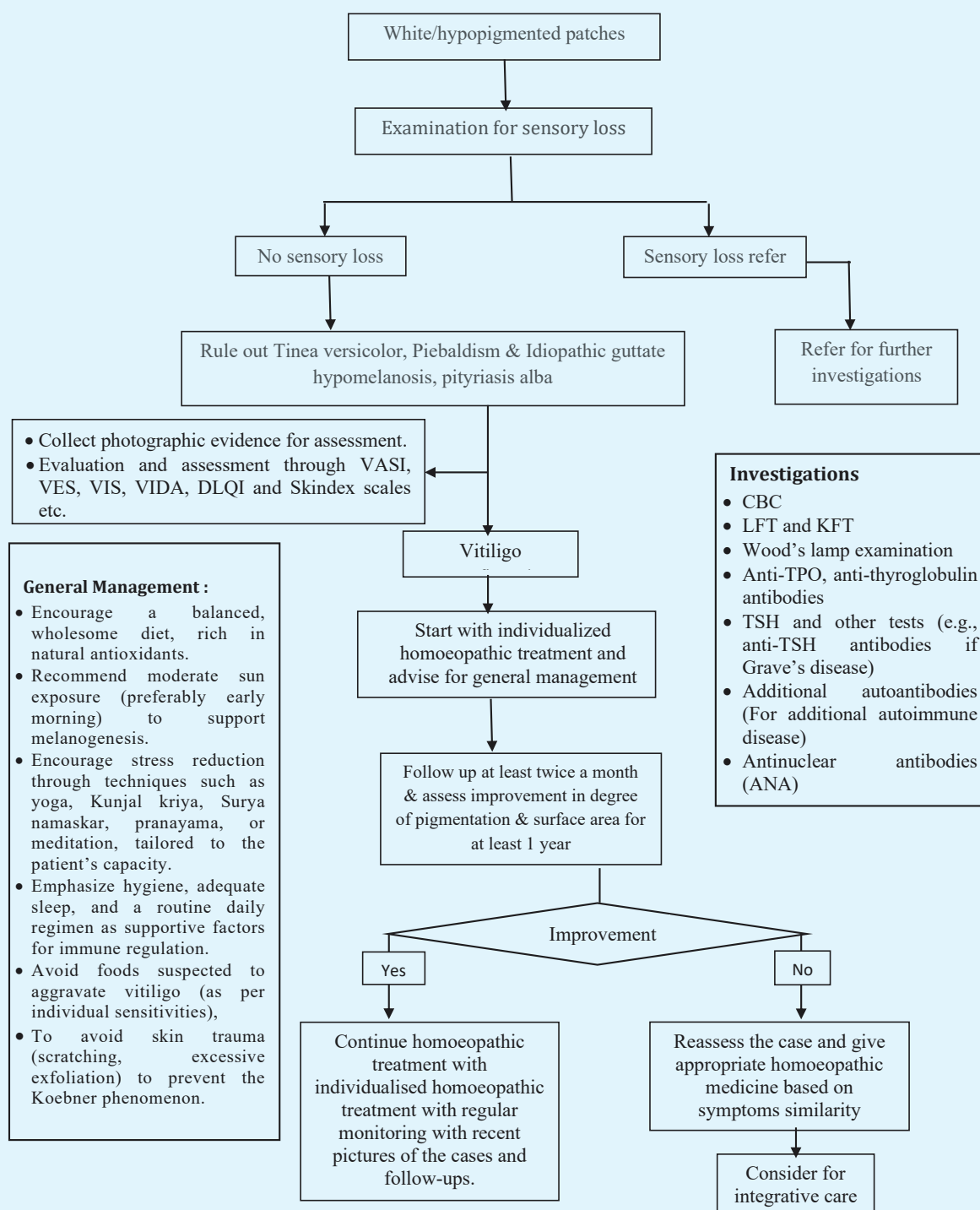
**Restricted Diet & Lifestyle** Same as levels 1 & 2

**Follow Up** (every 15 days or earlier as per the need)

**Referral Criteria:** Same as mentioned earlier at level 2 plus,

- Other therapeutic modalities—such as counseling, yoga, dietary modifications, or integrative Ayush approaches etc—may be considered based on the complexity and individualized needs of the patient.
- In select cases, referral to higher centres may also be appropriate for psychological reassurance or cosmetic interventions.

## ALGORITHM OF TREATMENT PROCESS FOR VITILIGO



Indications of medicines for Vitiligo:-<sup>45,46,47,48</sup>

| Sr. No. | Medicine                            | General Indications                                                                                                                                                                                                                                                                                                                                                                   | Characteristic particulars                                                                                                                                                                                                                                                                                                                                               |
|---------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | <b>Arsenicum album</b>              | <i>Chilly patient; weak, rapid disproportionate prostration; burning pains better by heat (except headache) increased thirst, drinks often but little at a time; craves milk; cadaveric odour of discharges and body.</i><br><br><i>Anxiety, restlessness, fretful, wants to be carried, anguish, fear for death and restlessness.</i>                                                | <ul style="list-style-type: none"> <li>• Itching, burning, swellings; oedema, eruption, papular, dry, rough, scaly; worse cold and scratching.</li> <li>• It suits patients with liver spots, whose skins have a brown, muddy, unwashed appearance on parts covered by clothes.</li> <li>• Skin dry, shrivelled, wrinkled. Skin rough, dry and dirty looking.</li> </ul> |
| 2.      | <b>Arsenicum sulphuratum flavum</b> | <i>Intense torturing anxiety and apprehension. General debility.</i><br><br><i>Worse every afternoon and evening. Better from steam or hot water, Lying down.</i>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Leucoderma and squamous syphilides.</li> <li>• Chafing of skin about genitals and behind ears of children. Skin itching, dry, cracked;</li> </ul>                                                                                                                                                                               |
| 3.      | <b>Baryta carbonica</b>             | <i>Especially indicated in infancy and old age. Chilly patients, greatly sensitive to cold, have offensive foot-sweat.</i><br><br><i>Mentally and physically dwarfish; timid, weary and lack self-confidence, avoid strangers and thinking of complaints makes them worse.</i><br><br><i>Better in open air.</i>                                                                      | <ul style="list-style-type: none"> <li>• Sensation in different parts, like the pricks of burning needles, itching and crawling sensations.</li> <li>• Intolerable itching and tingling over the whole body at night.</li> </ul>                                                                                                                                         |
| 4.      | <b>Caladium seguinum</b>            | <i>This remedy has a marked action on the genital organs and pruritus of this region. Coldness of single parts and inclination to lie down, with aggravation on lying on left side. Slightest noise startles from sleep. Dread from motion. Modifies craving for tobacco. Tobacco heart. Asthmatic complaints.</i><br><br><i>Indicated in sensitive, anxious, irritable patients.</i> | <ul style="list-style-type: none"> <li>• White spots with intense itching and burning of skin, especially after scratching.</li> <li>• Often used when lesions are near genitals or result after suppressed eruptions.</li> </ul>                                                                                                                                        |
| 5.      | <b>Calcarea carbonica</b>           | <i>Chilly patient; takes cold easily; fat, fair, flabby with large head, distended abdomen with red face; pale, weak, easily tired; head sweats profusely while sleeping; sour smelling discharges; longing for fresh air.</i><br><br><i>Slow development of milestones; tendency for lymphatic glandular enlargement; fearful, shy, timid, slow and sluggish.</i>                    | <ul style="list-style-type: none"> <li>• Pale skin, chalky look. Skin unhealthy; readily ulcerating; flaccid</li> <li>• Sweat of hands. Night sweats, especially on the head, neck, and chest</li> </ul>                                                                                                                                                                 |

| Sr. No. | Medicine                    | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Characteristic particulars                                                                                                                                                                                                                                                                                                                           |
|---------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                             | <i>Desire for eggs and indigestible things; aversion to meat and milk; feels better when constipated.</i>                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                      |
| 6.      | <b>Carcinosinum</b>         | <p><i>Thin, delicate children with fine skin and dark complexion or "Café au lait" hue, light-coloured eyes with pigmented moles; strong family history of cancer, tuberculosis &amp; other chronic illnesses; history of pneumonia, mumps, adenoids, typhoid, etc. in the child at an early age; history of excessive parental control in childhood.</i></p> <p><i>Affectionate, loving, sensitive to others' sufferings, sympathetic to animals, fond of them, passionate, fastidious, fearful, sensitive to reprimands.</i></p> | <ul style="list-style-type: none"> <li>• Carcinosin acts favourably and modifies cases in which either a history of carcinoma can be elicited, or symptoms of the disease itself exist</li> </ul>                                                                                                                                                    |
| 7.      | <b>Fluoricum acidum</b>     | <p><i>Adapted to chronic diseases with syphilitic and mercurial history. Complaints of old aged or prematurely aged with weak, distended blood vessels. Young persons with great ability to exercise without fatigue and is sensitive to temperature, perspiration.</i></p> <p><i>Craving cold drinks.</i></p>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Brownish or white skin spots; worse with warmth.</li> <li>• Old cicatrices become red around the edges, covered or surrounded by itching vesicles, or they itch violently.</li> <li>• Burning pains on small spots of the skin.</li> <li>• Used when other remedies fail. Syphilitic tendencies.</li> </ul> |
| 8.      | <b>Hydrocotyle asiatica</b> | <i>Circular scaly eruptions. Focus on cutaneous infections. Very copious perspiration.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Skin thickened, rough, scaly, and white patches.</li> <li>• Excessive exfoliation.</li> <li>• Often useful when connective tissue involvement is suspected.</li> </ul>                                                                                                                                      |
| 9.      | <b>Kali arsenicosum</b>     | <p><i>The patient tends towards malignancy, and inveterate skin diseases; Chilly patients.</i></p> <p><i>He is restless, nervous and anaemic.</i></p> <p><i>Aggravation at night.</i></p>                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Intense itching with black or depigmented spots.</li> <li>• Used when Arsenicum album is partially indicated but not effective.</li> <li>• Gradual depigmentation with itching and burning, particularly in localized areas.</li> </ul>                                                                     |
| 10.     | <b>Kali sulphuricum</b>     | <i>Thin, weak individuals with constantly shifting symptoms, prefer cool open air, dislike warm rooms, often irritable.</i>                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Desquamating skin lesions; symptoms shift from place to place.</li> <li>• Worse in evening and in warm rooms.</li> </ul>                                                                                                                                                                                    |

| Sr. No. | Medicine                    | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Characteristic particulars                                                                                                                                                                                                                                                                              |
|---------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.     | <b>Lycopodium clavatum</b>  | <p><i>Hot patient, intellectually keen but physically weak; upper part of body emaciated, lower part semi- dropsical; complexion pale, dirty, sallow with deep furrows; looks old; recurrent respiratory and gastro intestinal affections; tendency for flatulent dyspepsia; worse from 4- 8 pm; right sided complaints or symptoms shift from right to left.</i></p> <p><i>Dominating, cranky, lack of self-confidence, precocious, desires company, shy, fear to be alone.</i></p> <p><i>Desire for warm foods and drinks, sweet.</i></p>                        | <ul style="list-style-type: none"> <li>• Skin becomes indurated. thick Brown spots, freckles worse on the left side of face and nose.</li> <li>• Dry, shrunken, especially palms; hair becomes prematurely gray.</li> <li>• Viscid and offensive perspiration, especially of feet and axilla</li> </ul> |
| 12.     | <b>Magnesium muriaticum</b> | <p><i>A liver remedy with pronounced characteristic constipation. Chronic liver affections with tenderness and pain, extending to spine and epigastrium, worse after food. Especially adapted to diseases of women, with a long history of indigestion and uterine disease; children who cannot digest milk. Evil effects of sea bathing.</i></p>                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Leucoderma after suppressed anger or silent grief.</li> <li>• Tingling in different parts of the skin.</li> <li>• Formication of the skin (face, chest, and soles of feet).</li> <li>• Symptoms worse at the seaside.</li> </ul>                               |
| 13.     | <b>Mezereum</b>             | <p><i>Chilly patient; sensitive to cold air; after effects of vaccination, prone to skin affections; constant longing for food.</i></p> <p><i>Indifference; vexed and angry at trifles but is soon sorry and drawing for it; aggravation while alone.</i></p> <p><i>Craving for fat.</i></p>                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Intolerable itching; chilliness with pruritus; worse in bed.</li> <li>• Sensation of coldness in affected areas;</li> <li>• Eruption thick, scaly with offensive discharge</li> </ul>                                                                          |
| 14.     | <b>Natrum muriaticum</b>    | <p><i>Hot patient, poorly nourished, great emaciation (marked on neck); losing flesh while living well; craving for salt; aversion to bread and fatty things; constipated; increased thirst; mapped tongue with red insular patches.</i></p> <p><i>Melancholic, sad, plays alone, irritable, cross, cries when spoken to; awkward, hasty, drops things from nervous weakness; disposition to weep without cause, consolation aggravates.</i></p> <p><i>Worse: lying down, talking. Better: open air, going without regular meals, lying on the right side.</i></p> | <ul style="list-style-type: none"> <li>• Greasy, oily skin, especially on the face.</li> <li>• Lesions may be mapped or irregular, often appearing in a mask-like pattern.</li> </ul>                                                                                                                   |
| 15.     | <b>Nitricum acidum</b>      | <p><i>Chilly patient. Offensive discharges, especially urine, faeces and perspiration. Sensitive to noise, pain, touch, jar. Pain sharp, sticking, pricking as from splinters, suddenly appearing and disappearing.</i></p>                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• White or pale patches with fissures or ulcerations nearby.</li> <li>• Marked irritability, hypersensitivity to pain.</li> <li>• Often used in mucocutaneous junction lesions.</li> </ul>                                                                       |

| Sr. No. | Medicine                  | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Characteristic particulars                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16.     | <b>Phosphorus</b>         | <p><i>Tall, fast growing child with tendency to stoop; Haemorrhagic tendency. Chilly patient, haemorrhagic tendency; Great susceptibility to external impressions, to light, sound, odors, touch, electrical changes, thunder-storms.</i></p> <p><i>Nervous and affectionate, anxious especially during thunderstorm.</i></p> <p><i>Craving for salt, cold foods and drinks; ice cream; aversion to milk. Oversensitive to external Impressions.</i></p>                                                                                                           | <ul style="list-style-type: none"> <li>• Lesions appear on exposed areas, especially the face, chest, and limbs. Excoriated spots, with cracks and shootings.</li> <li>• Burning, itching, or tingling sensation in depigmented patches.</li> <li>• Round, tettery spots over the whole body. Freckles</li> <li>• Dry, furfuraceous tetter. Yellow or brown spots on the skin (esp. chest and abdomen).</li> <li>• Copper-coloured or bluish spots, like petechiae. Red spots. Pale skin.</li> </ul> |
| 17.     | <b>Plumbum metallicum</b> | <p><i>The blood, alimentary and nervous systems are the special seats of action. Progressive muscular atrophy. Mental depression. Abdomen retracted. Constipation; stool hard, lumpy, black with urging and spasm of anus.</i></p> <p><i>Lassitude; faints on going into a room full of company; slow of perception; intellectual torpor, gradually increasing apathy. Weakness or loss of memory; unable to find the proper word. Excessive and rapid emaciation.</i></p> <p><i>Worse at night, motion. Better rubbing, hard pressure, physical exertion.</i></p> | <ul style="list-style-type: none"> <li>• Skin pale, wrinkled, with patches of depigmentation.</li> <li>• Loss of pigmentation with accompanying nervous symptoms like tremors, paralysis.</li> </ul>                                                                                                                                                                                                                                                                                                 |
| 18.     | <b>Psorinum</b>           | <p><i>Extreme sensitiveness to cold. Debility, independent of any organic disease, especially the weakness remaining after acute disease. Lack of reaction, i.e, phagocytes defective; when well-chosen remedies fail to act. Scrofulous patients. Secretions have a filthy smell. Profuse sweating. Often gives immunity from cold-catching.</i></p>                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Skin extremely dirty-looking, greasy, offensive;</li> <li>• Itching worse at night and with heat in bed.</li> <li>• Often indicated when vitiligo appears after suppression of eczema or skin eruptions.</li> </ul>                                                                                                                                                                                                                                         |
| 19.     | <b>Sepia officinalis</b>  | <p><i>Chilly patient; tall, thin built with yellow saddle across upper part of cheeks and nose, big belly; dry flabby skin. Predisposed to take cold at change of weather. Desire for sour food which aggravates.</i></p> <p><i>Cheerful, active when well but indifferent and quarrelsome when sick, self-absorbed, sad, weeping and indolent.</i></p>                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Itching; not relieved by scratching; worse in bends of elbows and knees</li> <li>• Chloasma. Ringworm - like eruption every spring.</li> <li>• Hyperidrosis and bromhidrosis. Sweat on feet, worse on toes; intolerable odour.</li> </ul>                                                                                                                                                                                                                   |

| Sr. No. | Medicine                  | General Indications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Characteristic particulars                                                                                                                                                                                                                                                                                             |
|---------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20.     | <b>Sulphur</b>            | <p><i>Hot patient, kicks off the cloth at night; dirty, filthy, does not want to be washed; lean, thin, stoop-shouldered; child who walks and sit stooping; prone to skin affections, venous congestions; have a very weak and faint feeling about 11 a.m. and must have something to eat; have burning heat on palms and soles especially at night, red orifices; when the best selected remedy fails to improve.</i></p> <p><i>Restless, quick tempered.</i></p> <p><i>Desires sweets, sugar, meat. Worse from standing, at night</i></p> | <ul style="list-style-type: none"> <li>• Burning, itching skin worse from washing, heat, and at night.</li> <li>• Tendency to return of old skin conditions (psoriasis, eczema).</li> <li>• Offensive body odour; aversion to bathing.</li> <li>• Freckles. Itching, burning; worse scratching and washing.</li> </ul> |
| 21.     | <b>Syphilinum</b>         | <p><i>Suffering from utter prostration and debility in morning; successive abscesses. Syphilitic affections. Pains from darkness to daylight; decrease and increase gradually.</i></p> <p><i>Apathetic and indifferent; compulsive checking, compulsive hand washing; night terror; destructive tendency. Strong hereditary tendency to alcoholism. Terrible dread of night on account of mental and physical exhaustion on awakening; it is intolerable, death is preferable.</i></p>                                                      | <ul style="list-style-type: none"> <li>• Changing locations of spots.</li> <li>• Tendency to suppuration and destruction.</li> <li>• To be used only when well indicated.</li> </ul>                                                                                                                                   |
| 22.     | <b>Thuja occidentalis</b> | <p><i>Chilly patient; dark, fleshy with greasy face; Dark hair. Unhealthy skin, looks dirty with brownish spots; tendency for warty growths; oily/ greasy sweat, face &amp; stool; perspiration on uncovered parts.</i></p> <p><i>Complaints worse from cold, warm air &amp; damp humid weather, at night; and chronic complaints better during a cold. Better by warmth, free secretions, while drawing up a limb, left side, lazy. Ailments from vaccination; with illusions &amp; fixed ideas.</i></p>                                   | <ul style="list-style-type: none"> <li>• Eruptions only on covered parts.</li> <li>• The eruptions burn violently after scratching.</li> <li>• Sycotic excrescences, smelling like old cheese, or like the brine of fish.</li> <li>• White, scaly, dry, mealy herpes.</li> </ul>                                       |

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