



सत्यमेव जयते

Ministry of Ayush  
Government of India

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

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

Ministry of Health & Family Welfare  
Government of India

STANDARD TREATMENT GUIDELINES  
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© **Ayush Vertical, Directorate General of Health Services**  
**June, 2026**

ISBN: 978-81-180855-0-8

Publisher:

**Ayush Vertical, Directorate General of Health Services, New Delhi**  
**June, 2026**

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Ministry of Ayush and  
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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  
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सत्यमेव जयते



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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)



डॉ. रामराव दा. पाटील

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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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TABLE OF

# CONTENTS

| Sr. No. | Chapters        | Page No. |
|---------|-----------------|----------|
| I       | Abbreviations   | xviii    |
| II      | Glossary        | xx       |
| 1       | Dermatitis      | 1        |
| 2       | Dermatophytosis | 31       |
| 3       | Psoriasis       | 57       |
| 4       | Urticaria       | 91       |
| 5       | Vitiligo        | 115      |
|         | Annexures       | 141      |

## 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 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                                     |

## GLOSSARY

**1. Pūtam / pañcapūtam / aimpūtam / añcupūtam - Five primordial elements**

Earth, water, fire, air and space are the five primordial elements in the formation of every single thing (living and nonliving) in the world; the entire universe, including the creatures in it, is constituted and influenced by these five elements.

**2. Pirutivi / pirutivi pūtam (earth)**

A primordial golden-coloured element formed from water element, with qualities such as heaviness, solidity, conglomeration, growth and development.

**3. Appu / calam / appu pūtam / nīr (water)**

A primordial colourless element formed from fire element, with qualities such as coldness, greasiness, lightning, soddening, spreading with ease, wetting and oozing, collecting scattered things and enriching the mind.

**4. Vañnicam / tēyu pūtam / tī (fire)**

A primordial red-coloured element formed from air element, with qualities like heat, sharpness, clarity, subtleness, burning, glowing, colouring, etc.; governs activities such as egoism, laziness, sexual intercourse, fear and sleep.

**5. Mārutam / vāyu / kāṛru / vaḷi / kāl (air)**

A primordial black-coloured element formed from ether element, with qualities like dryness, weightlessness and roughness, governing motor activities, inhalation and exhalation.

**6. Ākāya pūtam / ākāyam / Vicumpu (ether)**

The primordial element, whitish in colour, having qualities like subtleness, clarity, appeasing nature and occupying space and governing the activities of desire, vengeance, lust, etc.

**7. Cīvākiṇi (Basal Metabolic heat)**

Heat required for sustenance of life (also referred to as Kukkiyaṇal, and Uyiraṇal).

**8. Camaṇikṇi (Optimal digestive fire)**

It is constituted by Camaṇaṇ , Aṇalam and Kilētakam . It is the digestive fire which ensures proper and timely digestion of all the solid and liquid food materials consumed by an individual.

**9. Viṭamākiṇi (Toxic digestive fire)**

Delayed digestion due to deranged and displaced leading to toxic digestion.

**10. Tikāṣākiṇi (Enhanced fire of digestion / Fiery digestion)**

Due to increased digestive fire, intake of even improperly cooked or undercooked food gets digested along with essence.

**11. Mantākiṇi (Sluggish / Delayed digestion)**

When the food items are taken eagerly results in delayed digestion and production of rumbling noise (borborygmus) in the abdomen along with abdominal distension and heaviness of the body.

**12. Vaḷi / vātam / aṇīlam / vāyu (bio-energy movement)**

One of the three humours / mukkuṛam / muttōṭam or principles of functional constitution of the body, condensed from the elements air and space. Vaḷi is responsible for all movements in the body and controls the functions of the nervous system, circulatory system and elimination of wastes, etc. Vātam predominates in the region below the umbilicus and is classified into ten types: Pirāṇaṇ, Apāṇaṇ, Viyāṇaṇ, Camaṇaṇ, Utāṇaṇ, Nākaṇ, Kūrmaṇ, kirukaraṇ, tēvatattaṇ and Taṇaṇceyaṇ. Roughness, dryness, lightness and mobility are certain attributes of vātam. It also strengthens the five sensory organs, regulates respiration, maintains the functions of Uṭal tātukkaḷ (physical constituents) and 14 Vēkaṇkal (physiological reflexes).

**13. Uyirkkāḷ / pirāṇaṇ (vāyu for respiration and digestion)**

Responsible for respiratory functions and controls its organs; originates from the center of the skull, also nourishes the life force.

**14. Kīḷnōkku kāḷ / apāṇavāyu / apāṇaṇ (vāyu for downward biological movements)**

Responsible for absorption and assimilation of essence, excretion of urine and faeces, ejection of semen and expulsion of uterine contents; originates from the coccygeal region (mūlātāram).

**15. Mēlnōkku kāḷ / utāṇaṇ (vāyu for upward biological movements)**

Responsible for all upward movements such as cough, sneeze, hiccup and vomiting; also responsible for speech and helps in digestion and assimilation of food; emanates from the fire of stomach, resides in navel, neck, throat and nose.

**16. Naṭukkāḷ / camāṇaṇ / camāṇavāyu (vāyu for homeostasis)**

Balances other vāyu components and is responsible for assimilation; balances the six tastes, water and foodstuffs during digestion and directs them to their sites of action; originates from the navel region.

**17. Paravukāḷ / viyāṇaṇ (vāyu for circulation)**

Disseminates throughout the body via 72,000 vessels and nerves, causing voluntary and involuntary functions; takes the essence of food to all parts of the body; responsible for touch sensation.

**18. Nākaṇ (vāyu for intellectual functions)**

Responsible for higher intellectual functions such as hearing, thinking and singing; causes blinking of eyes, opening of eyelids and goosebumps.

**19. Kūrmaṇ (vāyu for ophthalmic function)**

Acts on the eyes; responsible for blinking, visual interpretation and lacrimation; responsible for yawning and closing of mouth.

**20. Kirukaraṇ (vāyu for secretion)**

Responsible for oral and nasal secretion; causes thinking, hunger, cough and sneeze.

**21. Tēvatattaṇ (vāyu for fatigue)**

Responsible for laziness and tiredness on waking; causes movement of eyeballs and emotional outbursts like anger or verbal disputes.

**22. Taṇaṇceyaṇ (vāyu for death)**

During death, causes generalized swelling of the body and tinnitus;(Check this line) leaves the body through the head on the third day of death.

**23. Aṇal / pittaṇ (bio-energy fire)**

One of the humours / mukkuṇṇam or principles of constitution of the body, condensed from the elements, water and earth. Aṇal is responsible for metabolism and controls digestion, movement, eye function, complexion, and sharpness of mind. Dominates the chest and abdomen and exists in five forms: Anarpitham, Ranjaga pitham, Saathag pitham, Aalosaga pitham and Prasaga pitham.

**24. Ākkaṇal / aṇarpittaṇ (aṇal / pittaṇ for digestion)**

Exists in stomach and intestines; dries up water contents of foodstuffs and digests ingested food.

**25. Vaṇṇa eri / iraṇcaka pittaṇ (aṇal / pittaṇ for nourishment of blood)**

Exists in stomach; responsible for nourishment of blood through conversion of chyle.

**26. Āṇṇalaṇki / cāṭaka pittaṇ (aṇal / pittaṇ for performing desired acts)**

Exists in heart; performs desired acts with help of knowledge and intellect.

**27. Oḷḷoḷi tī / pirācakam (aṇal / pittaṇ for complexion)**

Exists in skin and gives it lustre.

**28. Nōkkazal / ālōcakam (aṇal / pittaṇ for vision)**

Exists in eyes and responsible for the vision.

**29. Aiyam / kapam (bio-energy water)**

One of the three humours; watery or frothy in nature; dominates head and neck region; influences respiratory functions and exists in five forms: Avalampakam, kilētam, pōtakam, tāṇpakam and cāntikam.

**30. Aḷi aiyam / avalampakam (strengthening aiyam)**

Exists in thoracic cavity including heart; along with its innate potential and essence of food it strengthens the body- Pivotal Ali Aiyam.

**31. Nīrppi aiyam / kilētakam (aiyam / kapam for digestive functions)**

Exists in stomach; breaks down the ingested hard foodstuffs and liquefies and homogenize them.

**32. Cuvaikāṇ aiyam / pōtakam (aiyam / kapam for taste)**

Exists in tongue; helps in tasting the food.

**33. Nīraivaiyam / tāṇpakam (aiyam / kapam for strengthening sense organs)**

Exists in head; strengthens the sense organs and keeps the eyes cool.

**34. Oṇṇriyaiyam / cantikam (aiyam / kapam for lubrication)**

Exists in joints; provides lubrication.

**35. Seven uṭṭartātu (physical constituents)**

Seven uṭṭartātu are plasma (cāram), blood (cennīr), muscle (ūṇ), adipose tissue (koṇuppu), bone (eṇpu), bone marrow (mūḷai) and reproductive tissue (cukkilaṇ / curōṇitaṇ).

### 36. Eṇvakai tērvu / eṭṭuvakai pariṭcai (eight types of diagnosis)

Naadi, Sparisam, Naa, Niram, Mozhi, Vizhi, Malam, Neer (Neerkuri and Neikuri).

### 37. Internal Medicines:

**37.1 Cāru (juice):** Extract of plant parts prepared freshly and has to be used within three hours.

**37.2 Kuṭinīr (decoction):** Aqueous extract prepared by boiling herbs in water; should be consumed within three hours.

**37.3 Kaṛkam (medicinal paste):** Paste of fresh or dried materials; should be used within three hours.

**37.4 Cūraṇam (powder):** Purified drugs are pounded and sieved; shelf-life three months.

**37.5 Vaṭakam (lozenges):** Medicinal powders steam-baked and rolled into pills; shelf-life three months.

**37.6 Maṇappāku (syrup):** Decoction or fruit juice boiled with sugar or jaggery; shelf-life six months.

**37.7 Ney (medicated ghee):** Ghee-based herbal preparation; shelf-life six months.

**37.8 Iracāyaṇam (semi-solid confection):** Medicinal powder mixed with ghee and sugar; shelf-life six months.

**37.9 Iḷakam (electuary):** Decoction boiled with sugar, mixed with powders, ghee, and honey; shelf-life six months.

**37.10 Eṇṇey (medicinal oil):** Herbal paste or juice boiled with oils; shelf-life one year.

**37.11 Māttirai / kuḷikai / uruṇṭai (pills/tablets):** The triturated rawdrugs are rolled and dried; shelf-life one year.

**37.12 Tīnīr / pukai nīr / tirāvakam (distillate):** Medicated vapour condensed and collected; shelf-life one year.

**37.13 Mezuku (medicated wax):** The grinded drugs are made into semisolid/ waxy form by adding herbal juices or honey; shelf-life five years.

**37.14 Kuṇṇampu (viscous mixture):** Juices boiled with jaggery and powders; shelf-life five years.

**37.15 Pataṇkam (sublimate):** Drugs obtained by sublimation; shelf-life ten years.

**37.16 Centuram (red calx):** Red metallic/mineral microfine powder; obtained by either burning or drying; shelf-life 75 years.

**37.17 Nīru / paṇṇam (white calx):** Metallic and Organic Substances made into white calcined powder by burning or drying; shelf-life 100 years.

**37.18 Cuṇṇam (calcine):** Calcined powder obtained by incineration; shelf-life 100 years.

**37.19 Kaṛṇṇam (rejuvenating drugs):** Used in specific dosage with dietary regimen.

### 38. External Medicines:

**38.1 Kaṭṭu (compress):** Ground or cooked drugs tied or bandaged over the affected parts.

**38.2 Paṇṇu (poultice):** Medicinal pastes applied over inflammation or wounds.

- 38.3 Pūccu (liniment):** Boiled juices or medicated oils applied externally.
- 38.4 Pacai (medicated cream):** Raw materials added to melted wax or oil and applied.
- 38.5 Poṭi (dusting powder):** Powdered herbs applied over wounds and ulcers.
- 38.6 Kaḷimpu (ointment):** Minerals ground with butter and applied externally.
- 38.7 Nīr (medicated liquid):** Antiseptic medicated water used for washing.
- 38.8 Naciyam (nasal instillation):** Instilling nasal drops.
- 38.9 Poṭi timirtal (powder massage):** Massage using herbal powders.
- 38.10 Tokkaṇam (manipulation techniques):** Nine physical manipulation methods.
- 38.11 Orraṭam (fomentation):** Hot application using heated herbal bundles.
- 38.12 Vētu (steam therapy):** Steam inhalation or application with herbal materials.
- 38.13 Poṭṭaṇam / Kizhi (medicated pouch):** Herbal bundle dipped in oil and applied.
- 38.14 Pukai (fumigation):** Medicated fumes used for purification or healing.
- 38.15 Cuṭṭikai (cautery):** Application of heat using various instruments.
- 38.16 Kāram (caustic ablation):** Application of caustic drugs to remove slough or growth.
- 38.17 Pīccu (enema):** Medicated liquid administered rectally for cleansing.
- 38.18 Aṭṭai viṭal (leech):** Medicinal leech therapy for blood purification.
- 38.19 Kīral (incision):** Surgical incision to remove pus or accumulated fluids.





# DERMATITIS

## (Karappāṇ)

ICD 11 Code: EA80–EA87<sup>1</sup>

ICD 11TM2: SN43<sup>2</sup>

NSMC: BF<sup>3</sup>

### CASE DEFINITION<sup>4,5</sup>

Dermatitis refers to inflammation of the skin resulting in erythema, itching, oedema, 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.

Karappāṇ is a acute/subacute/ chronic inflammatory disease of skin characterized by itching, erythema, oozing, oedema and vesiculation<sup>6</sup>.

### INTRODUCTION<sup>4,5,7-15</sup> (Incidence/Prevalence/ Morbidity/Mortality/Risk Factors)

- 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

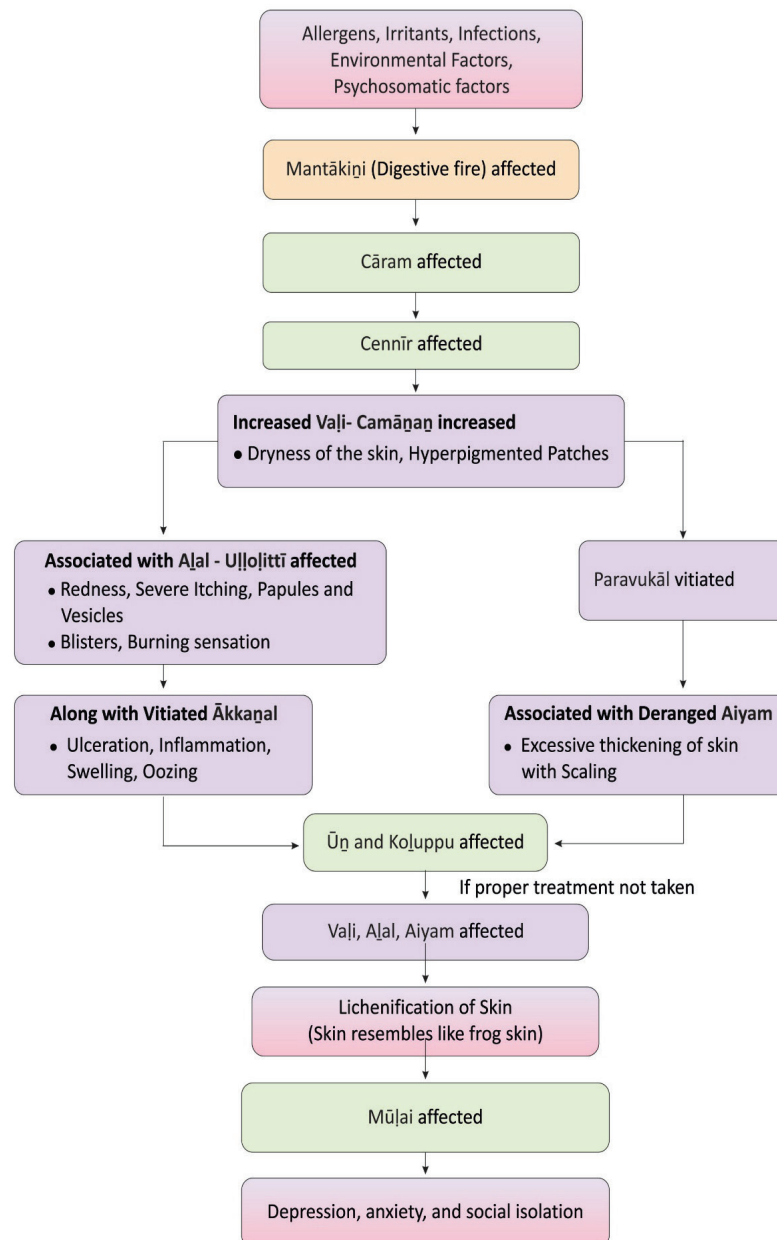
#### Etiology:

Ēlāṇa karappāṇuṇ patti kēlāy  
ēṛra māmicaṅkaḷ pucikkaiyālum  
kūlāṇa kamputiṇai varaku cāmai  
koṭitāṇa kiḷaṅkuvakai yarunta lālum

pālāṇa peṇ māyai taṇṇir cikkum  
pāṅkāṇa viratantāṇ muyarci yālum  
tālāṇa paṇṭaṅkaḷ camaittut tiṇṇal  
tākkumē karappāṇraṇ cāyal tāṇē<sup>16</sup> (Yūki vaittiya cintāmaṇi)

- Excessive consumption of meat, egg, fish, guava, eggplant, pumpkin, pearl millet (*Kampu*), Kodo millet (*Varaku*) and tubers.
- Excessive sexual desire and psychic disturbances from anti-social activities are also linked to *karappāṇ*.
- In contact with allergens, irritants, infections and environmental factors.
- Some individuals may react to these triggers due to intolerance, though sensitivity varies among people.

### Karappāṇ (Dermatitis) - Siddha Pathophysiology



CLINICAL PRESENTATION: 4,5,7-11

Table 1: Clinical features of different types of dermatitis

| Type of Dermatitis          | Clinical Features                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Investigations                                                                                                                                                                                                                       | Appearance                                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Atopic Dermatitis           | <ul style="list-style-type: none"><li>Chronic, relapsing pruritic eczematous lesions, often involving flexural areas (elbows, knees, neck), with lichenification, xerosis</li><li>Intense itching, redness, scaling 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 are common.</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><li>Patch test if contact allergy suspected</li><li>Skin biopsy in atypical cases</li></ul>      |  <p>Fig 1<sup>17</sup></p>   |
| Irritant Contact Dermatitis | <ul style="list-style-type: none"><li>Localized erythema, scaling, rough, inflamed skin often with burning sensation, 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>17</sup></p> |

| Type of Dermatitis          | Clinical Features                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Investigations                                                                                                                                                                                         | Appearance                                                                                                      |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Allergic Contact Dermatitis | <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>17</sup></p>   |
| Parthenium Dermatitis       | <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 <i>Parthenium hysterophorus</i>. 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>18</sup></p>   |
| Seborrheic Dermatitis       | <ul style="list-style-type: none"> <li>Erythematous plaques with greasy, white or yellowish scales or crust on scalp (dandruff), eyebrows, beard or jaw, 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>17</sup></p> |

| Type of Dermatitis                         | Clinical Features                                                                                                                                                                                                                                                                                                                                    | Investigations                                                                                                                                                                                | Appearance                                                                                                      |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Nummular Dermatitis                        | <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>19</sup></p>   |
| Stasis Dermatitis                          | <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>20</sup></p>  |
| Neurodermatitis (Lichen Simplex Chronicus) | <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>21</sup></p> |
| Dyshidrotic Dermatitis (Pompholyx)         | <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 sensation, itching and fissure</li> <li>Often triggered by stress or hot weather, frequent recurrences.</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>17</sup></p> |

In Siddha, Karappāṇ manifests with following clinical features<sup>16</sup>:

**Acute symptoms:**

- Itching
- Indurated, hyper pigmented patches
- Tiny fluid filled blisters which are itchy
- When the blisters burst, either by scratching or themselves, the fluid oozes onto the skin's surface and leads to wound formation
- Crust or scab formation when the fluid dries

**Chronic symptoms:**

- Skin Lichenification (resembles like Frog skin)

**CLINICAL EXAMINATION<sup>22</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.
- Severity of pruritus (e.g., keeping the 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
- 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 of depending 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>7,8</sup>**

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

**Table 2: Differential diagnosis**

| Condition                                                      | Differential Features                                                                                                                                                                                                                                                                                                                                                                                       | Investigations                                                                                                                                                                                             |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Psoriasis                                                      | <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>Positive for Auspitz sign (pinpoint bleeding when scales are removed), nail pitting, possible arthritis.</li> </ul>                                                                                                                   | <ul style="list-style-type: none"> <li>Skin biopsy showing acanthosis</li> <li>parakeratosis</li> <li>Munro micro abscesses</li> </ul>                                                                     |
| Scabies                                                        | <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 feces.</li> </ul>                                                                                     |
| Tinea corporis                                                 | <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>                                                                                                         |
| Drug eruptions                                                 | <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>                                                              |
| Lichen planus                                                  | <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> |
| Insect Bite/Insect bite hypersensitivity/ Bed bug infestations | <ul style="list-style-type: none"> <li>Common in children who is hypersensitivity to bites</li> <li>Localized reactions:</li> <li>Itchy, erythematous papules or wheals</li> <li>Central punctum may be present</li> <li>May progress to vesicles or bullae</li> <li>Itchy erythematous papules, often in lines or clusters</li> <li>May have central punctum or sometimes contain a clear fluid</li> </ul> | <ul style="list-style-type: none"> <li>Clinical diagnosis based on the history of Patients.</li> </ul>                                                                                                     |

| Condition              | Differential Features                                                                                                                                                                                                                                                                                                        | Investigations                                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Dermatophytid reaction | <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>                   |
| Asteatotic eczema      | <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>                                       |
| Pityriasis rosea       | <ul style="list-style-type: none"> <li>Begins with single large herald patch on trunk followed by multiple smaller oval salmon-colored lesions along cleavage lines (Christmas tree pattern)</li> <li>Mild itching, self-limiting</li> </ul>                                                                                 | <ul style="list-style-type: none"> <li>Clinical diagnosis</li> <li>Biopsy if needed</li> </ul>                                                  |
| Impetigo               | <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 <i>Staphylococcus aureus</i> or <i>Streptococcus pyogenes</i>.</li> </ul> |
| Eczema herpeticum      | <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>                          |

In Siddha, the following diseases must be considered in differential diagnosis of karappāṇ<sup>16</sup>

| Condition                               | Differential Features                                                                                                                                                                 |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kāḷāñcakappaṭai (Psoriasis)             | It is characterized by erythematous elevated itchy patches with silvery scales in the scalp, palm and sole, hemorrhagic purpura, cracks in the sole and palm                          |
| Paṭartāmarai (Dermatophytosis)          | It is characterized by skin lesion which appears either as lotus petals, pale or black or red or milky white in colour, pruritus, scratching of the skin, oozing, pain and tenderness |
| Ciraṅku (Scabies)                       | It is characterized by itching followed by one or more papules, which may become vesicles and sometimes pustules                                                                      |
| Taṭippu Perunōy (Thickness of the Skin) | It is characterized by the wheal formation, itching, swelling of the body, increased body heat and burning sensation.                                                                 |

**Table 3: SUPPORTIVE INVESTIGATIONS** 4,9,10,11,17,23,24,25

| 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, 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 marker 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 diagnosing the atopic states.</li> <li>More than 80% of patients with AD (Atopic Dermatitis) 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 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>                                                                                                                                                                                                                  |

## Types of Dermatitis and Relevant Investigations

| Type of Dermatitis                         | Investigations to be Done                                                                                                                                                  |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atopic Dermatitis (Eczema)                 | <ul style="list-style-type: none"> <li>• Serum IgE levels</li> <li>• Complete Blood Count (For eosinophilia)</li> <li>• Specific IgE (if allergen suspected)</li> </ul>    |
| Contact Dermatitis (Irritant / Allergic)   | <ul style="list-style-type: none"> <li>• Patch testing (gold standard for allergic contact dermatitis)</li> <li>• History of exposure (occupational / cosmetic)</li> </ul> |
| Seborrheic Dermatitis                      | <ul style="list-style-type: none"> <li>• Usually clinical diagnosis</li> <li>• KOH mount to exclude tinea</li> </ul>                                                       |
| Nummular Dermatitis                        | <ul style="list-style-type: none"> <li>• Usually clinical</li> <li>• KOH mount to exclude tinea</li> <li>• Patch testing if chronic/recurrent</li> </ul>                   |
| Stasis Dermatitis                          | <ul style="list-style-type: none"> <li>• Venous Doppler ultrasound</li> <li>• CBC (if secondary infection suspected)</li> </ul>                                            |
| Neurodermatitis (Lichen Simplex Chronicus) | <ul style="list-style-type: none"> <li>• Usually clinical</li> <li>• Skin biopsy if diagnosis is uncertain</li> </ul>                                                      |
| Dyshidrotic Dermatitis (Pompholyx)         | <ul style="list-style-type: none"> <li>• KOH mount to rule out fungal infection</li> <li>• Patch testing (if recurrent or occupational exposure suspected)</li> </ul>      |

## DIAGNOSTIC CRITERIA<sup>4,5,8,26,27,28,29</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:

**Table 4:**

| Type of Dermatitis | Diagnostic Criteria                                                                                                                                                                    |                                                                                                                                  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Atopic Dermatitis  | 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. |                                                                                                                                  |
|                    | 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) |

| Type of Dermatitis          | Diagnostic Criteria                                                                                                                                                                                                                      |                                                                                                           |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|                             |                                                                                                                                                                                                                                          | Visible flexural dermatitis (or dermatitis of cheeks, forehead, or outer limbs in children below 4 years) |
| Irritant Contact Dermatitis | <ul style="list-style-type: none"> <li>• Diagnosis by 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> |                                                                                                           |
| Allergic Contact Dermatitis | <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 (24–72 hrs after exposure)</li> </ul>         |                                                                                                           |
| Seborrheic Dermatitis       | <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>• Recur with stress or winter</li> </ul>     |                                                                                                           |
| Nummular Dermatitis         | <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>                                     |                                                                                                           |
| Dyshidrotic Dermatitis      | <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>                  |                                                                                                           |

### Ēṇvakai tērvu:

- Nāṭi – Vaḷiyaḷal/ Aḷalvaḷi
- Sparicam - Roughness /fissures/ chillness
- Nā - Pallor/ coated
- Niṛam - Hyperpigmented /hypopigmented
- Moḷi - Normal
- Viḷi - Normal/ pallor
- Maḷam – Normal
- Mūttiram:
  - Nīrkuṛi - Yellowish in colour/ tamarind odour
  - Neykkuṛi - Oil may spread in the form of ring / pearl

**Note:** Depending upon the severity of the disease, chronicity, age, sex, and season, the interpretation of the above Ēṇvakai tērvu may change.

- **Maṇikkaṭai nūl** (if applicable)

### Evaluation and Assessment<sup>30,31,32</sup>

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

**Table 5**

| 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 area, 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 (EASI)</b>         | <p>The EASI is a widely used tool to assess the severity of Atopic dermatitis (Eczema). It evaluates two main components:</p> <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 advice to continue the same along with add-on Siddha treatment 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>11</sup>

These signs should be assessed before initiating treatment for the need of 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>4,5,13,33</sup>

- All patients should be educated about the symptoms of infection
- Maintain proper hygiene (For all dermatitis especially for Atopic and Allergic Contact Dermatitis)
- Exclusive breastfeeding of infants up to 6 months of age is recommended for the 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 of Liquids/day).

**Yoga:**<sup>23,34</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. Thus, it serves as an effective complementary therapy alongside conventional medical management of dermatitis.

### Primary Prevention:

Primary prevention involves preventing diseases in healthy individuals before any health problems occur. To achieve this, Siddhar *Theriyar* has recommended some basic lifestyle practices, as outlined in *Piṇiyaṇukāviti* which helps in preventing diseases. (Refer Annex-I)

### Eṇṇey muḷukku (Therapeutic Oil Bath)

### Kaḷiccal maruttuvam (Therapeutic Purgation)

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively

### Siddha Bath Powders (SBP) used to take bath<sup>35</sup>:

- Pañcakarpam (Herbal bath powder)
- Green-gram powder (Powder of *Vigna radiata* (L.) R.Wilczek)
- Nalaṅku mā (Herbal bath powder)

### Secondary Prevention:

Secondary prevention aims to treat diseases at an early stage to prevent their progression and reduce the risk of complications.

### Diet:

- The primary humor affected is Vaḷi followed by Aḷal. Hence the diet which aggravates Vaḷi and Aḷal should be avoided.
- Avoid Karappāṇ inducing foods as mentioned below:

perukuñ cōḷa miṇṇukum perumkampu  
varaku kārutaṇ vāḷaiyiṇ kāyoṭu  
uraikoḷ pākaraḷ kelirumīṇ uṇṭiṭil  
viriva tāykkarap pāṇumikuntatē<sup>16</sup>

**Table 6**

| Sr. No. | English Name | Tamil Name | Scientific Name                             |
|---------|--------------|------------|---------------------------------------------|
| 1       | Sorghum      | Cōḷam      | <i>Sorghum bicolor (L.) Moench</i>          |
| 2       | Pearl millet | Kampu      | <i>Cenchrus americanus (L.) Morrone</i>     |
| 3       | Kodo millet  | Varaku     | <i>Paspalum scrobiculatum L.var</i>         |
| 4       | Rice Variety | Kār Arici  | <i>Oryza Sativa L.</i>                      |
| 5       | Plantain     | Vāḷaikkāy  | Tender fruits of <i>Musa paradisiaca L.</i> |
| 6       | Bitter gourd | Pākaṛkāy   | <i>Momordica charantia L.</i>               |
| 7       | Cat fish     | Kelirrumīṇ | <i>Siluriformes</i>                         |

**Recommended Lifestyle:**

- Dry the clothes in sunlight
- Live in good ventilation
- Have adequate rest and sound sleep
- Regular oil bath (twice a week) with herbal powder wash (Green gram powder)
- Maintain proper hygiene

**Restricted Diet & Lifestyle:**

The following restrictions in diet and lifestyle shall be adopted:

- Contact with allergens like pollen, Animal dander
- Karappāṇ inducing foods
- Food that induces constipation
- Spicy food, aromatics
- Alcoholic beverages & Smoking

**(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>4,8,11</sup>

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

**Management**

The first line of treatment focuses on reducing the vitiated Uyirtātu – Vaḷi in Karappāṇ through Eṇṇey muḷukku (Therapeutic Oil bath) and Kaḷiccal maruttuvam (Therapeutic purgation). The other vitiated humours can also be managed using the same treatment methods by

selecting suitable drugs and following the appropriate internal medicines, external medicine, diet, and lifestyle.

- **Day 1: Eṇṇey muḷukku (Therapeutic Oil Bath)**

- *Arakku thylam*<sup>36</sup> – Quantity Sufficient and wash with Ucilantūḷ (*Albizia odoratissima* (L.f.) Benth) herbal powder

- **Day 2: Kaḷiccal maruttuvam (Therapeutic Purgation)**

- *Meganatha Thylam*<sup>37</sup> – 8-30 ml with luke warm water at early morning.

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively

- **Day 3: Rest**

- **Day 4: Internal and external medicine**

**Table 7: Internal Medicines**

| Sr. No.                                                 | Drugs                                           | Dosage form (in Siddha) | Dose          | Time      | Duration and Frequency                 | Adjuvants/ Anupaanam |
|---------------------------------------------------------|-------------------------------------------------|-------------------------|---------------|-----------|----------------------------------------|----------------------|
| <b>Kudineer (Decoction)</b>                             |                                                 |                         |               |           |                                        |                      |
| 1                                                       | <i>Karappan Kudineer</i> <sup>38</sup>          | Decoction               | 30 ml – 60 ml | BD        | Depending on the severity of condition | -                    |
| <b>Chooranam (Medicinal Powder) (Single Ingredient)</b> |                                                 |                         |               |           |                                        |                      |
| 1                                                       | <i>Kadugurohini Chooranam</i> <sup>36</sup>     | Powder                  | 500 mg – 1 g  | BD        | Depending on the severity of condition | Hot water            |
| 2                                                       | <i>Karboga arisi Chooranam</i> <sup>36</sup>    | Powder                  | 1-2 g         | BD        | -do-                                   | Hot water            |
| 3                                                       | <i>Karunseeraka Chooranam</i> <sup>36</sup>     | Powder                  | 500 mg – 4 g  | BD        | -do-                                   | Hot water            |
| 4                                                       | <i>Murukkan Vithai Chooranam</i> <sup>36</sup>  | Powder                  | 500 mg – 1 g  | BD        | -do-                                   | Hot water            |
| 5                                                       | <i>Naval Pattai Chooranam</i> <sup>36</sup>     | Powder                  | 1-3 g         | BD        | -do-                                   | Hot water            |
| 6                                                       | <i>Poonakkali Vidai Chooranam</i> <sup>36</sup> | Powder                  | 3-6 g         | BD        | -do-                                   | Hot water            |
| 7                                                       | <i>Vettiver Chooranam</i> <sup>36</sup>         | Powder                  | 1-2 g         | BD or TDS | -do-                                   | Hot water            |
| 8                                                       | <i>Kottai Karanthai Chooranam</i> <sup>39</sup> | Powder                  | 500 mg – 1 g  | BD        | -do-                                   | Hot water            |

| Sr. No.                                           | Drugs                                        | Dosage form (in Siddha) | Dose       | Time | Duration and Frequency | Adjuvants/ Anupaanam |
|---------------------------------------------------|----------------------------------------------|-------------------------|------------|------|------------------------|----------------------|
| <b>Chooranam (Medicinal Powder) (Poly herbal)</b> |                                              |                         |            |      |                        |                      |
| 1                                                 | <i>Parangipattai Chooranam</i> <sup>40</sup> | Powder                  | 1-2 g      | BD   | -do-                   | Milk                 |
| 2                                                 | <i>Thiriphala Chooranam</i> <sup>40</sup>    | Powder                  | 1-2 g      | BD   | -do-                   | Hot water            |
| 3                                                 | <i>Elathy Chooranam</i> <sup>40</sup>        | Powder                  | 1-2 g      | BD   | -do-                   | Hot water            |
| 4                                                 | <i>Amukkara Chooranam</i> <sup>40</sup>      | Powder                  | 1-2 g      | BD   | -do-                   | Milk                 |
| <b>Ilagam (Electuary)</b>                         |                                              |                         |            |      |                        |                      |
| 5                                                 | <i>Maha Vallathy Ilagam</i> <sup>40</sup>    | Electuary               | 3 g        | BD   | -do-                   | Milk                 |
| 6                                                 | <i>Karisalai Ilagam</i> <sup>40</sup>        | Electuary               | 5-10 g     | BD   | -do-                   | Milk                 |
| <b>Parpam (White calx)</b>                        |                                              |                         |            |      |                        |                      |
| 7                                                 | <i>Kungiliya Parpam</i> <sup>40</sup>        | White calx              | 200-400 mg | BD   | -do-                   | Milk                 |
| 8                                                 | <i>Sangu Parpam</i> <sup>40</sup>            | White calx              | 200-400 mg | BD   | -do-                   | Milk                 |
| 9                                                 | <i>Pavala Parpam</i> <sup>40</sup>           | White calx              | 200-400 mg | BD   | -do-                   | Milk                 |
| 10                                                | <i>Silasathu Parpam</i> <sup>40</sup>        | White calx              | 200-400 mg | BD   | -do-                   | Milk                 |

### External medicines

| Sr. No. | Drugs                                 | Dosage form (in Siddha) | Dose              |
|---------|---------------------------------------|-------------------------|-------------------|
| 1.      | <i>Arugan thylam</i> <sup>40</sup>    | Oil                     | Required Quantity |
| 2.      | <i>Pungan thylam</i> <sup>40</sup>    | Oil                     | Required Quantity |
| 3.      | <i>Kungiliya Vennai</i> <sup>40</sup> | Butter                  | Required Quantity |

#### Note:

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V.

**Recommended Lifestyle:** Same as mentioned in Secondary prevention.

**Restricted Diet & Lifestyle:** Same as mentioned in Secondary prevention.

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

**Reviews should include:**<sup>4,5,8,10</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 pain 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.
- Co-existing systemic diseases (Diabetes mellitus, Hypothyroidism, Renal impairment) affecting skin healing.
- Recurrent relapses despite compliance with therapy.
- Suspected allergic etiology needs 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 which 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.

**Line of Treatment:**

- **Day 1: Eṇṇey muḷukku (Therapeutic Oil Bath)**

Same as Level I management.

- **Day 2: Kaḷiccal maruttuvam (Therapeutic Purgation)**

Same as in Level I management.

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively

- **Day 3: Rest**

- **Day 4: Internal and external medicines**

**Table 8: Internal Medicines**

| Sr. No.                                  | Drugs                                    | Dosage form (in Siddha) | Dose      | Time | Duration and Frequency                 | Adjuvants / Anupaanam |
|------------------------------------------|------------------------------------------|-------------------------|-----------|------|----------------------------------------|-----------------------|
| <b>Chooranam (Medicinal Powder)</b>      |                                          |                         |           |      |                                        |                       |
| 1                                        | Karungungiliya Chooranam <sup>16</sup>   | Medicinal Powder        | 1 g       | BD   | Depending on the severity of condition | Milk                  |
| <b>Rasayanam (Semi-Solid Confection)</b> |                                          |                         |           |      |                                        |                       |
| 2                                        | Gandhaga Rasayanam <sup>40</sup>         | Semi-Solid Confection   | 1-2 g     | BD   | -do-                                   | Milk                  |
| 3                                        | Parangipattai Rasayanam <sup>40</sup>    | Semi-Solid Confection   | 5 g       | BD   | -do-                                   | Milk                  |
| 4                                        | Thippili Rasayanam <sup>40</sup>         | Semi-Solid Confection   | 3 g       | BD   | -do-                                   | Milk                  |
| <b>Mathirai (Pills/Tablets)</b>          |                                          |                         |           |      |                                        |                       |
| 5                                        | Amirdhathi Kuliga <sup>37</sup>          | Pills/Tablets           | 1 pill    | BD   | -do-                                   | Milk                  |
| 6                                        | Kandhaga Mathirai <sup>37</sup> (100 mg) | Pills/Tablets           | 1-2 pills | BD   | -do-                                   | Milk                  |
| 7                                        | Kushtakaja Kesari Mathirai <sup>37</sup> | Pills/Tablets           | 1-2 pills | BD   | -do-                                   | Honey                 |
| <b>Chendhuram (Red Calx)</b>             |                                          |                         |           |      |                                        |                       |
| 8                                        | Ayakantha Chendhuram <sup>40</sup>       | Red Calx                | 65-130 mg | BD   | -do-                                   | Honey                 |

| Sr. No.                    | Drugs                                             | Dosage form (in Siddha) | Dose       | Time | Duration and Frequency | Adjuvants / Anupaanam |
|----------------------------|---------------------------------------------------|-------------------------|------------|------|------------------------|-----------------------|
| 9                          | <i>Sivanar Amirtham</i> <sup>40</sup>             | Red Calx                | 100-200 mg | BD   | -do-                   | Honey                 |
| 10                         | <i>Gowri Chinthamani Chendhuram</i> <sup>40</sup> | Red Calx                | 130 mg     | BD   | -do-                   | Honey                 |
| <b>Parpam (White Calx)</b> |                                                   |                         |            |      |                        |                       |
| 11                         | <i>Palagarai Parpam</i> <sup>40</sup>             | White Calx              | 100-200 mg | BD   | -do-                   | Milk                  |
| 12                         | <i>Muthuchippi Parpam</i> <sup>40</sup>           | White Calx              | 200-400 mg | BD   | -do-                   | Ghee                  |
| 13                         | <i>Gandhaga Parpam</i> <sup>41</sup>              | White Calx              | 130-260 mg | BD   | -do-                   | Honey or Ghee         |

### External medicines

| Sr. No. | Drugs                                 | Dosage form (in Siddha) | Dose              |
|---------|---------------------------------------|-------------------------|-------------------|
| 1.      | <i>Karappan Thylam</i> <sup>40</sup>  | Oil                     | Required Quantity |
| 2.      | <i>Kungiliya Thylam</i> <sup>40</sup> | Oil                     | Required Quantity |
| 3.      | <i>Mathan Thylam</i> <sup>40</sup>    | Oil                     | Required Quantity |
| 4.      | <i>Vanga Vennai</i> <sup>40</sup>     | Butter                  | Required Quantity |

### Note:

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V

**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)
- Histopathological confirmation is required.

- 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>4,11,13</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.

#### Line of Treatment:

#### Day 1: Enṇey muḷukku (Therapeutic Oil Bath)

Same as Level I management.

#### Day 2: Kaḷiccal maruttuvam (Therapeutic Purgation)

**Table 9 : Choice of medicine for Purgation**

| Sr. No. | Drugs                                            | Dosage form (in Siddha) | Dose      | Time                           | Duration and Frequency | Adjuvants/ Anupaana                                                |
|---------|--------------------------------------------------|-------------------------|-----------|--------------------------------|------------------------|--------------------------------------------------------------------|
| 1.      | Karudan kizhangu Thylam <sup>16</sup>            | Oil                     | 16 ml     | Early morning in empty stomach | Once a day             | 50 ml luke warm water                                              |
| 2.      | Meganatha Kuligai (100 mg) <sup>37</sup>         | Pills/ Tablets          | 1-2 pills | Early morning in empty stomach | -do-                   | Cukku decoction/ Ginger ( <i>Zingiber officinale</i> . Rosc) juice |
| 3.      | Murukkan vithai Maathirai (100 mg) <sup>37</sup> | Pills/ Tablets          | 1-2 pills | Early morning in empty stomach | -do-                   | lukewarm water/ palm jaggery                                       |

| Sr. No. | Drugs                            | Dosage form (in Siddha) | Dose       | Time                           | Duration and Frequency | Adjuvants/ Anupaana                      |
|---------|----------------------------------|-------------------------|------------|--------------------------------|------------------------|------------------------------------------|
| 4.      | Agathiyar Kuzhambu <sup>37</sup> | Viscous Mixture         | 100-130 mg | Early morning in empty stomach | -do-                   | Caṅkaṅkuppi (Azima tetracantha Lam) cāru |
| 5.      | Siddhathi Ennei <sup>37</sup>    | Oil                     | 10 drops   | Early morning in empty stomach | -do-                   | Lukewarm water                           |

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively

### Day 3: Rest

### Day 4: Internal and external medicines

**Table 10: Internal Medicines**

| Sr. No.                               | Drugs                                 | Dosage form (in Siddha) | Dose       | Time | Duration and Frequency                     | Adjuvants/ Anupaanam |
|---------------------------------------|---------------------------------------|-------------------------|------------|------|--------------------------------------------|----------------------|
| <b>Pathangam (Sublimate Medicine)</b> |                                       |                         |            |      |                                            |                      |
| 1                                     | Parangipattai Pathangam <sup>16</sup> | Sublimate Medicine      | 500 mg     | BD   | Depending on the severity of the condition | Milk                 |
| <b>Mezhugu (Medicated Wax)</b>        |                                       |                         |            |      |                                            |                      |
| 1                                     | Rasagandhi Mezhugu <sup>40</sup>      | Wax                     | 500mg-1 g  | BD   | Depending on the severity of condition     | Palm Jaggery         |
| 2                                     | Nandhi Mezhugu <sup>40</sup>          | Wax                     | 100-500 mg | BD   | Depending on the severity of condition     | Palm Jaggery         |
| 3                                     | Kanthaga Mezhugu <sup>40</sup>        | Wax                     | 260-390 mg | BD   | Depending on the severity of condition     | Palm Jaggery         |
| <b>Chendhuram (Red Calx)</b>          |                                       |                         |            |      |                                            |                      |
| 4                                     | Thanga Chendhuram <sup>40</sup>       | Red Calx                | 30-65 mg   | BD   | Depending on the severity of condition     | Butter milk          |
| 5                                     | Thamira Chendhuram <sup>40</sup>      | Red Calx                | 16-35 mg   | BD   | Depending on the severity of condition     | Honey                |
| 6                                     | Rasa Chendhuram <sup>40</sup>         | Red Calx                | 35-60 mg   | BD   | Depending on the severity of condition     | Honey                |

| Sr. No. | Drugs                                              | Dosage form (in Siddha) | Dose      | Time | Duration and Frequency                 | Adjuvants/ Anupaanam   |
|---------|----------------------------------------------------|-------------------------|-----------|------|----------------------------------------|------------------------|
| 7       | <i>Nava Padana Chendhuram</i> <sup>40</sup>        | Red Calx                | 30-65 mg  | BD   | Depending on the severity of condition | Honey and Ginger Juice |
| 8       | <i>Kaalamega Narayana Chendhuram</i> <sup>40</sup> | Red Calx                | 30-100 mg | BD   | Depending on the severity of condition | <i>Velluli thylam</i>  |

## External medicines

| Sr. No. | Drugs                                       | Dosage form (in Siddha) | Dose              |
|---------|---------------------------------------------|-------------------------|-------------------|
| 1.      | <i>Sivappu Ennai</i> <sup>40</sup>          | Oil                     | Required Quantity |
| 2.      | <i>Mirudharasingi Kalimbu</i> <sup>40</sup> | Ointment                | Required Quantity |
| 3.      | <i>Padikara Neer</i> <sup>37</sup>          | Liquid                  | Required Quantity |
| 4.      | <i>Venkara Neer</i> <sup>37</sup>           | Liquid                  | Required Quantity |

### Note:

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V

## Other procedures (External Therapies as per applicability):

### Aṭṭai viṭal (Leech therapy):

- The application of Leech therapy (Aṭṭai viṭal) can be effective for the treatment of Karappāṇ<sup>42</sup>.
- Aṭṭai viṭal is one of the minimally invasive therapies mentioned in Siddha system of Medicine. Aṭṭai viṭal is done by using the medicinal leeches over the affected area to absorb the impure blood.

### Pre-operative procedure<sup>43</sup>:

#### Preparation of leeches:

- The moderate sized, dark brown leeches may be used. The selected leeches are first washed in turmeric water for purification, followed by rinsing with clean water.

#### Preparation of the patient:

- Patient is advised to consume light food before treatment and to ensure adequate sleep the night before. Vital signs are checked before initiating the procedure.

**Operative procedure:**

- The site selected for leech application is cleaned thoroughly using clean water.
- Leeches are then applied directly to the site.
- Once the leeches begin to suck blood, the area is covered with moist sterile gauze.
- After sufficient blood has been drawn, leeches either detach spontaneously or they are gently removed by applying turmeric powder near their mouth.
- The leech bite sites are then cleaned, dressed in *Aloe vera* (L.) Burm pulp, and lightly dusted with turmeric powder to promote healing and prevent infection.

**Post -operative procedure<sup>43</sup>:****Care of the patient:**

- Post-procedure, the patient's vital signs are reassessed.
- The patient is moved to a post-operative care area for monitoring.
- The bite site is observed for at least one hour.
- The patient is advised to rest for the remaining day and instructed to report any unusual symptoms or discomfort.

**Care of leeches:**

- After removal, leeches are induced to regurgitate the ingested blood by gently applying turmeric powder to their mouth.
- Following complete emesis, they are rinsed in turmeric water and then transferred to clean water.
- Finally, the leeches are stored in appropriately labelled containers for future use.

**Contraindications<sup>43</sup>:**

- Children below 10 yrs
- Pregnancy & Lactating women
- Menstruation
- Low blood pressure
- Anaemia
- Dengue
- Coronary artery disease
- Blood coagulation disorders
- HIV /STD/HBsAg/Hepatitis

**Complications<sup>43</sup>:**

- Local pain during treatment
- Local itching
- Hypotension
- Vasovagal attacks
- Blood loss
- Impaired wound healing

- Super infections and allergies
- Sepsis
- Transmission of infectious diseases
- Scarring

**Note:** Aṭṭai viṭal is advised to do under the supervision and guidance of Registered Siddha Physician only.

**Recommended Diet and Lifestyle:** Same as mentioned in Secondary prevention

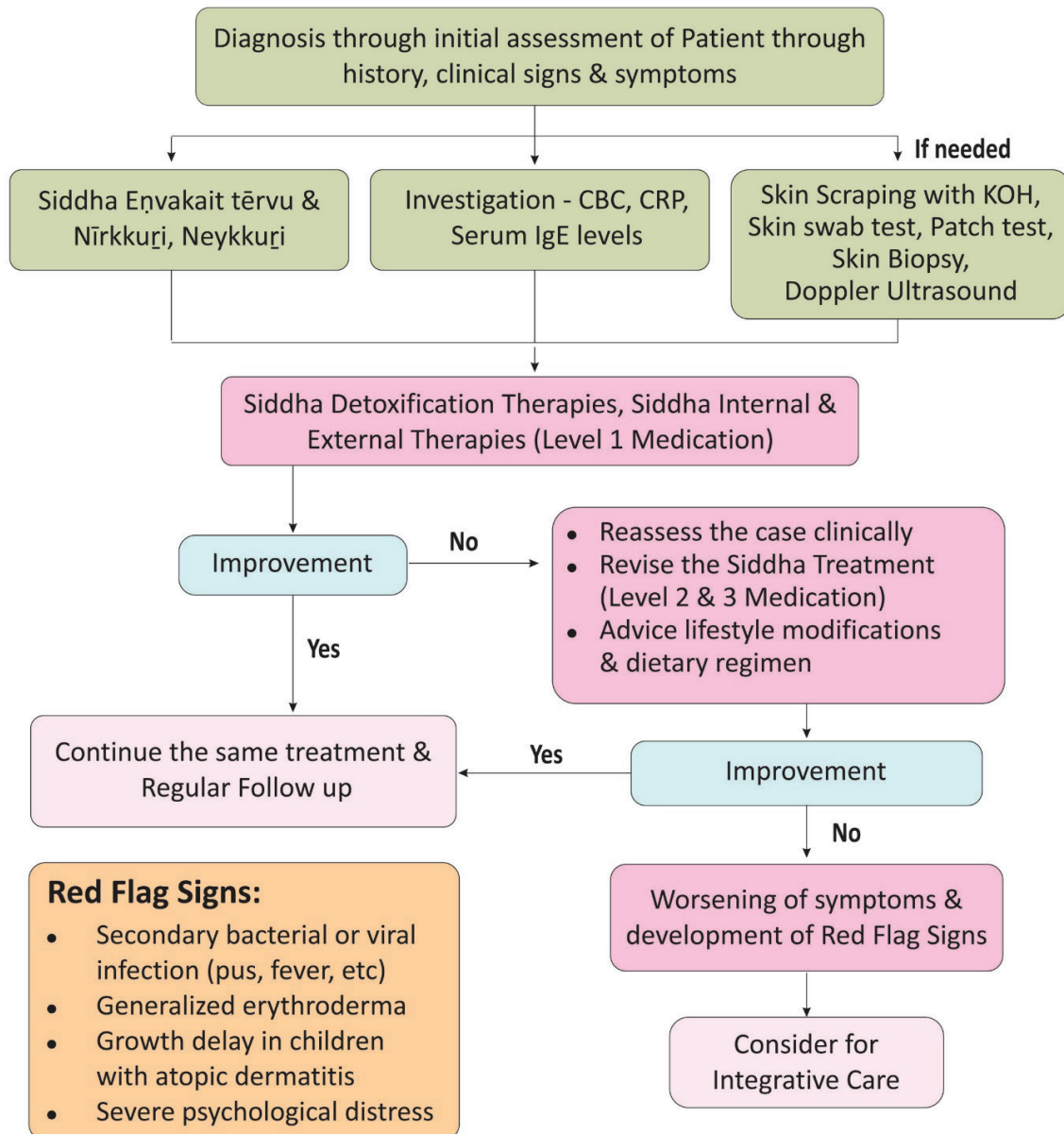
**Restricted Diet and Lifestyle:** Same as mentioned in Secondary prevention

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

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

- Life-threatening complications, e.g., sepsis from superimposed infection.
- Treatment-refractory cases are unresponsive to Siddha medical management.
- 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 Karappāṇ (Dermatitis)



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# DERMATOPHYTOSIS

## (Paṭartāmarai (Puṇṭarīkak Tōl nōy))

ICD-11 Code : 1F28<sup>1</sup>

ICD-11TM2 Code : SN4U<sup>2</sup>

NSMC : BSC1.2<sup>3</sup>

### 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>4</sup>. "Tinea", the Latin name for worm, describes the serpentine appearance of the skin lesions<sup>5</sup>.

Puṇṭarīkak Tōl Nōy<sup>3</sup> is a disease characterized by skin lesions resembling lotus petals, which may appear pale, black, red, or milky white in color, accompanied by itching, scratching, oozing, pain, and tenderness<sup>3</sup>. It is explained by increased Vaḷi which in turn followed by Aḷal.

### 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>6</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>7,8</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 dermatophytosis.
- 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>9</sup> This is resistant to many front-line drugs. This has led to an alteration in the immunity.<sup>10</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 dermatophytosis classically Tinea incognito (Steroid-modified dermatophytosis) and Majocchi variant which do not respond to conventional agents.

Factors implicated in recalcitrant dermatophytosis<sup>11</sup>

- Clinical type of dermatophytosis
- Fungal species- *Trichophyton Indotinae*
- Host Immunity
- Resistance
- The new species *Trichophyton Indotinae* has unique mechanisms of resistance and is becoming the most dominant variety of Dermatophytosis in India

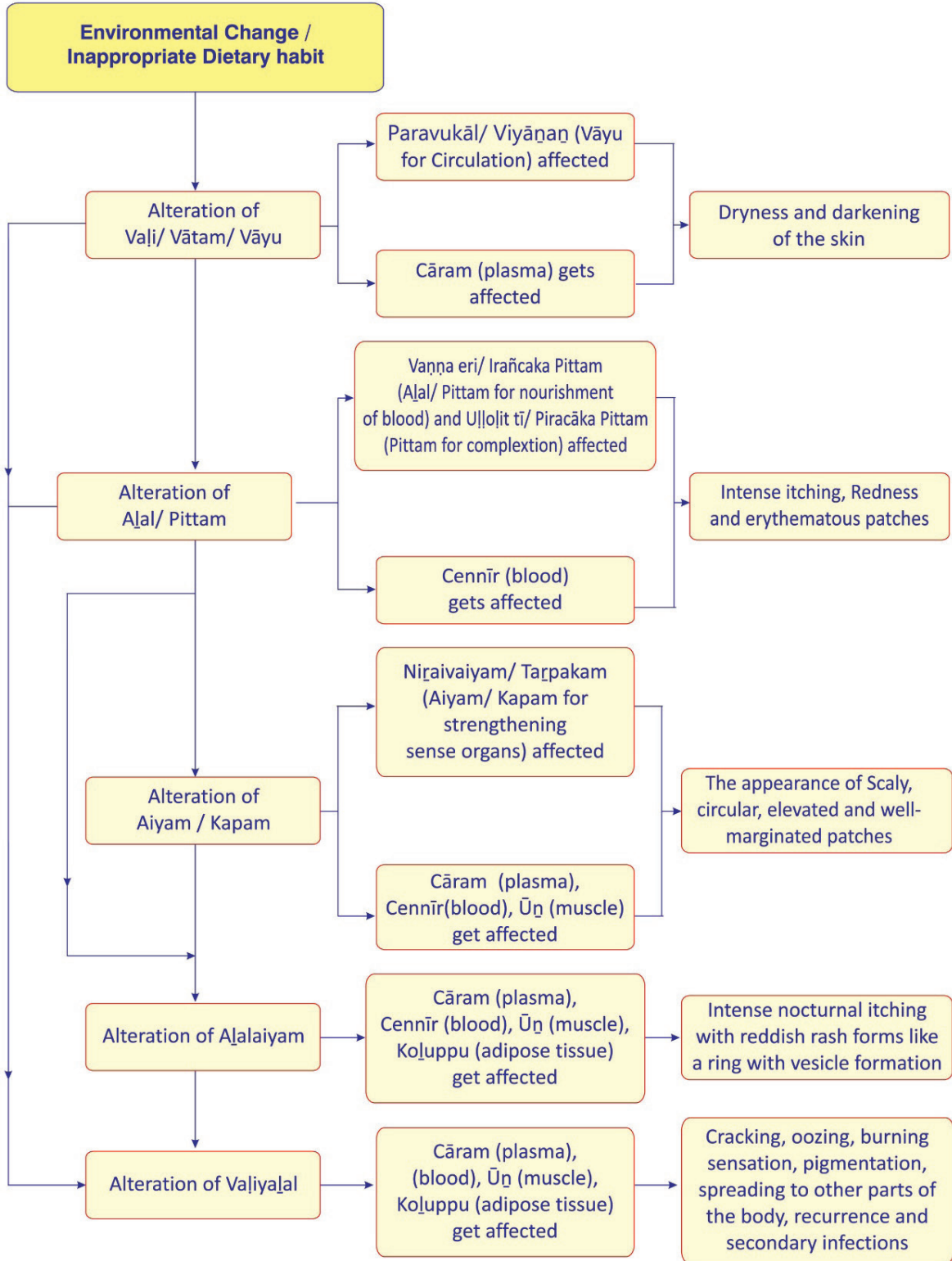
- Chronic and recurrent cases have increased significantly in the last 5-10 years due to overuse of topical steroids and antifungal creams which have made them resistant to common antifungal drugs.
- Dermatophytosis is not life threatening, but it causes severe itching and discomfort, social embarrassment 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>12,13</sup>
- In Siddha system of medicine, Puṇṭarīkak Tōl nōy is the one of the 18 classifications of skin disease addressed by Siddhar Yūkimuṇi in Yūki Vaittiya Cintāmaṇi<sup>14</sup>. The clinical manifestations mentioned under Puṇṭarīkak Tōl nōy is clinically correlated with fungal infection, more equivalent to dermatophytosis.

### Aetiology:

According to the Siddha classic text Kurunāṭi, the cause of the skin diseases is due to the microbial infections,

Kirumiyāl vanta tōṭam perukavuṇṭu  
 Kēṭkakilataṇ pirivutaṇaik kiramamāka  
 Porumi varum vāyuvellāṇ kirumiyālē  
 Puḷukkaṭipōl kāṇumatu kirumiyālē  
 Cerumivarum pavuttiraṇkaḷ kirumiyālē  
 Tēkamatil corik kuṭṭam kirumiyālē  
 Turumi varuṇ curōṇitaṇ kirumiyālē  
 Cūṭcamuṭaṇ kiricaippāl toḷil ceyvīrē <sup>15</sup> (Kurunāṭi Nūl)

## Paṭartāmarai - Puṇṭarīkak Tōl nōy (Dermatophytosis) Siddha Pathophysiology



## CLINICAL PRESENTATION<sup>16,17,18</sup>

### a) Typical Lesion-

- A typical lesion of dermatophytosis 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 (Steroid-modified dermatophytosis) and Majocchi Granuloma are seen. Fig 1



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

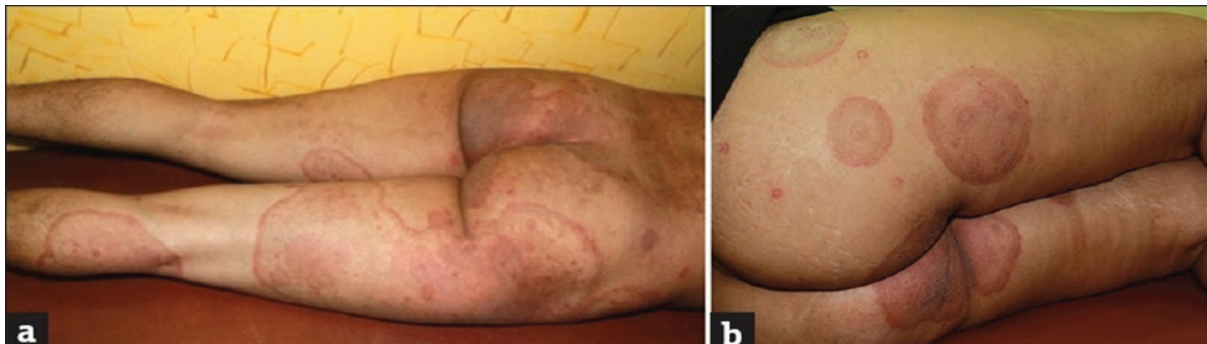


Figure 2:( a & b) Large sized, erythematous patches with active border over the gluteal regions and legs. (Figure 1 & 2: Courtesy: Verma et al. Indian J Dermatol 2017; 62:227-36)

- b) As *T. indotinae* has become a dominant cause of Tinea corporis (Dermatophytosis of the body) Specific features of this variant are now well described and are listed in the Table below.
- c) **Asymptomatic dermatophytosis 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 (Dermatophytosis of the body); Tinea cruris (Dermatophytosis of the groin); Tinea capitis (Dermatophytosis of the scalp); Tinea pedis (Dermatophytosis of the feet); Tinea manuum (Dermatophytosis of the hands); Tinea unguium (Dermatophytosis of the nails); Tinea barbae (Dermatophytosis of the bearded area)

**CLINICAL EXAMINATION<sup>13</sup>**

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

**General Inspection:**

It 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.

**Table 1: 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)               |

**Table 2: Region Specific Examination:**

| Type                                               | Clinical Sign                                                                                                                                                         |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tinea corporis (Dermatophytosis of the 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 (Dermatophytosis of the groin)        | Red itchy rash in groin/thighs, often bilateral.                                                                                                                      |
| Tinea capitis (Dermatophytosis of the scalp)       | Patchy hair loss, inflammation, black dots, scaling, boggy swellings (kerion), broken hair.                                                                           |
| Tinea pedis (Dermatophytosis of the feet)          | Scaling, fissures between toes, moccasin – type dryness, cracked skin between toes (itching and inflammation).                                                        |
| Tinea manuum (Dermatophytosis of the hands)        | One hand typically involves, dry scaling, hyperkeratosis or blistering.                                                                                               |
| Tinea unguium (Dermatophytosis of the nails)       | Thickened, brittle, discoloured nails, onycholysis.                                                                                                                   |
| Tinea faciei (Dermatophytosis of the face)         | Erythematous plaques, often aggravated by sun or steroids.                                                                                                            |
| Tinea barbae (Dermatophytosis of the bearded area) | Dermatophytosis of the bearded area, appears as a pustular folliculitis.                                                                                              |

## DIFFERENTIAL DIAGNOSIS<sup>19,20</sup>

**Table 3: Differential diagnosis with features**

| Differential diagnosis                                                                                                                   | Distinguishing features                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tinea corporis (Dermatophytosis of the body) - 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>5</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>6</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 (Dermatophytosis of the groin) - 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.                                                                                                                          |

| Differential diagnosis                                                                                                                                                                                                                                                                                                                                  | Distinguishing features                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tinea pedis (Dermatophytosis of the feet) - Erythema, scale, fissures, maceration; itching between toes extending to sole, borders, and occasionally dorsum of foot; may be accompanied by Tinea manuum (Dermatophytosis of the hands) ["one-hand, two-feet" involvement] or onychomycosis)</b>                                                      |                                                                                                                                                                                                           |
| 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>5</sup> .                                                                |
| <b>Tinea capitis (Dermatophytosis of the Head) - 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>5</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 (Dermatophytosis of the nails) - 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>21</sup></b> |                                                                                                                                                                                                           |

SUPPORTIVE INVESTIGATIONS <sup>22,23</sup>

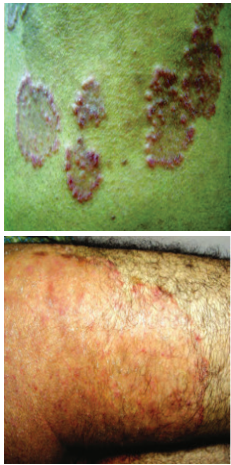
Table 4: Supportive Investigation

| Test                                                                               | Description                                                                                                                                                                                                                                                                               |                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Essential                                                                          |                                                                                                                                                                                                                                                                                           |                                                     |
| Potassium hydroxide (KOH) Scraping- Simple, inexpensive, quick and sensitive test. | a) Interpretation of KOH mount.                                                                                                                                                                                                                                                           |                                                     |
|                                                                                    | T. capitis (Dermatophytosis of the head)                                                                                                                                                                                                                                                  | Branching hyphae. Spores within or around the hair. |
|                                                                                    | T. cruris (Dermatophytosis of the groin)                                                                                                                                                                                                                                                  | Branching hyphae.                                   |
|                                                                                    | T. corporis (Dermatophytosis of the body)                                                                                                                                                                                                                                                 | Branching hyphae.                                   |
| Advanced                                                                           |                                                                                                                                                                                                                                                                                           |                                                     |
| Cultures                                                                           | 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. |                                                     |
| Wood's Light                                                                       | It is useful method of screening outbreaks of T. Capitis (Dermatophytosis of the head) in schools. Wood's light fluoresces infected scalp hair in tinea capitis (Dermatophytosis of the head) caused by certain species, not in all, but infected skin does not show fluorescence.        |                                                     |
| Dermatophyte test medium                                                           | Scales from the advancing border, subungual debris or affected hair embedded in the medium.                                                                                                                                                                                               |                                                     |
| Histopathology special stains                                                      | Periodic acid- Schiff & grocott's methenamine silver are used. Tissue by skin or nail biopsy are obtained.                                                                                                                                                                                |                                                     |
| Biopsy or Polymerase Chain Reaction (PCR)                                          | They are used to confirm the types and extent of infection.                                                                                                                                                                                                                               |                                                     |

DIAGNOSTIC CRITERIA <sup>19,23,24</sup>

Table 5: Diagnostic Criteria

The diagnosis of dermatophytosis is based on mostly clinical examination.

| Type                                                        | Description                                                                                    | Image                                                                                 |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Tinea corporis/cruris (Dermatophytosis of the body / groin) | Annular or arcuate lesion with periphery showing papulo-vesiculation with itching and scaling. |  |

| Type                                            | Description                                                                                                                              | Image                                                                                 |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Tinea capitis<br>(Dermatophytosis of the head)  | 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. |    |
| Tinea unguium<br>(Dermatophytosis of the nails) | Yellowish discolouration of nail plate which may show crumbling or is thickened. Asymmetrical involvement of few nails.                  |    |
| Tinea pedis<br>(Dermatophytosis of the feet)    | Vesicular, with itchy vesicles occurring on the sides of the feet on a background of erythema, interdigital maceration.                  |   |
| Tinea manuum<br>(Dermatophytosis of the hands)  | 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>25</sup>

**The Dermatology-specific Quality of Life (DSQL)** instrument measures physical, psychological, and social limitations through 36 items, focusing on disease-specific impacts.<sup>26</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>27</sup>

### Eṇ Vakait Tērvu (Eight-Fold System of Clinical Assessment) <sup>28</sup>:

|          |                                                                |
|----------|----------------------------------------------------------------|
| Nāṭi     | : Aḷalvaḷi/Vaḷiaḷal                                            |
| Sparicam | : Dryness/scaling/rough/itching/blister/oozing/papulovesicular |
| Nā       | : Normal/coated                                                |
| Niṛam    | : Redness/hyperpigmented                                       |
| Moḷi     | : Normal/low pitched                                           |

|           |                                             |
|-----------|---------------------------------------------|
| Vilī      | : Normal/pallor/dry                         |
| Malam     | : Normal/dark/Constipation                  |
| Mūttiram: |                                             |
| Nīrkkurī  | : Yellowish in colour                       |
| Neykkurī  | : Oil may spread in the form of snake/ ring |

**Note:** Depending on the severity of the disease, its chronicity, as well as factors like age, sex, and season, the interpretation of Eṇ Vakait Tērvu may vary or change.

## 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 Siddha 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>13</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 (Dermatophytosis of the head)
- Uncontrolled Diabetes mellitus
- Lower extremity cellulitis in cases of Tinea pedis (Dermatophytosis of the feet)
- Underlying severe immunodeficiency due to HIV/AIDS.
- Severe widespread infection causing significant pain or inflammation or eczematization irrespective of treatment.

## A. Prevention Management

### Primary prevention

The goal of primary prevention is to avoid infection by reducing contact with fungi and controlling contributing factors. The onset of disease can be prevented before it manifests by following the principles of Tēraṇ Piṇiyaṇukā Viti and by regularly practicing Siddha cleansing therapies.

#### i. Tēraṇ Piṇiyaṇukā Viti (Disease Prevention Regimens)

Refer Annexure I

#### ii. Eṇṇey muḷukku (Therapeutic Oil bath)

Refer Annexure II

#### iii. Kaḷiccal maruttuvam (Therapeutic Purgation):

Refer Annexure III

#### iv. Siddha Bath Paste (SBP) used for bathing:

- Nalaṅku māvu (Herbal bath powder).<sup>29</sup>
- Mañcaḷ kāppiṭṭu kuḷittal (Turmeric application during bath) <sup>29</sup>:
- Green-gram powder (Powder of *Vigna radiata* (L.) R.Wilczek).

## Secondary prevention:

Secondary prevention focuses on the early detection and treatment of dermatophytosis, aiming to delay its progression and prevent its spread or recurrence by strictly addressing aggravating factors, maintaining personal hygiene, and adhering to appropriate medication.

### a. Diet

Food we consume after digestion will either nourish or deplete the three humours (Vaḷi, Aḷal & Aiyam) through the seven body constituents cāram (plasma), ceṇṇīr (blood), ūṇ (muscle), koḷuppu (fat), eṇṇu (bone), mūlai (bone marrow), cukkilam/ curōṇitam (reproductive fluid). The primary kuṛram affected in Puṇṭarīkak Tōl Nōy is Vaḷi followed by Aḷal. The diet which aggravates Vaḷi and Aḷal may be avoided.

**Table 6: Recommended diet**

| Recommended diet <sup>28</sup>                                                    |                           |                     |                                     |
|-----------------------------------------------------------------------------------|---------------------------|---------------------|-------------------------------------|
|                                                                                   | English name              | Tamil name          | Scientific name                     |
| Greens                                                                            | Silver Cockscomb          | Paṇṇaikkīrai        | <i>Celosia argentea</i> L.          |
|                                                                                   | Kidney leaf morning glory | Paraṭṭai kīrai      | <i>Ipomoea reniformis</i> Choisy    |
|                                                                                   | Radish spinach            | Muḷḷaṅki kīrai      | <i>Raphanus sativus</i> L.          |
|                                                                                   | Balloon Vine              | Muṭakkarrāṇ kīrai   | <i>Cardiospermum halicacabum</i> L. |
| The above greens can be consumed in the form of stir-fries, chutneys, and curries |                           |                     |                                     |
| Vegetables                                                                        | Broad Bean                | Avarai              | <i>Lablab purpureus</i> (L.) Sweet  |
|                                                                                   | Fig                       | Atti                | <i>Ficus racemosa</i> L.            |
|                                                                                   | Drumstick                 | Muruṅkai            | <i>Moringa oleifera</i> Lam.        |
|                                                                                   | Radish                    | Muḷḷaṅki            | <i>Raphanus sativus</i> L.          |
|                                                                                   | Unripe banana             | Vāḷaippiṇcu         | <i>Musa paradisiaca</i> L.          |
| The above vegetables can be consumed as salad, soup, or curry                     |                           |                     |                                     |
| Beverages                                                                         | Cow's buttermilk          | Pasu mor (Pacu mōr) |                                     |
| Beverages may be taken during meals                                               |                           |                     |                                     |

**Table 7: Restricted diet**

| Restricted diet <sup>28,30</sup>                                   |              |            |                                               |
|--------------------------------------------------------------------|--------------|------------|-----------------------------------------------|
| Any recipes that contain the following ingredients must be avoided |              |            |                                               |
|                                                                    | English name | Tamil name | Scientific name                               |
| Cereals                                                            | Sorghum      | Cōḷam      | <i>Sorghum vulgare</i> Pers.                  |
|                                                                    | Pearl millet | Kampu      | <i>Pennisetum typhoides</i> Stapf & C.E.Hubb. |
|                                                                    | Kodo millet  | Varaku     | <i>Paspalum scrobiculatum</i> L.              |
|                                                                    | Horse gram   | Kollu      | <i>Macrotyloma uniflorum</i> Verdc.           |

|                              |                     |                        |                                      |
|------------------------------|---------------------|------------------------|--------------------------------------|
| <b>Root tubers</b>           | Sweet potato        | Carkkaraivaḷḷi kiḷaṅku | <i>Ipomoea batatas</i> Lam.          |
|                              | Taro root           | Cēppaṅkiḷaṅku          | <i>Colocasia esculenta</i> Schott    |
| <b>Vegetables and fruits</b> | Raw Banana          | Vāḷaikkāy              | <i>Musa paradisiaca</i> L.           |
|                              | Bitter gourd        | Pākaṛkāy               | <i>Momordica charantia</i> L.        |
|                              | Mango               | Māṅkāy                 | <i>Mangifera indica</i> L.           |
|                              | Guar beans          | Kottavarai             | <i>Cyamopsis tetragonoloba</i> Taub. |
|                              | Guava               | Koyyā                  | <i>Psidium guajava</i> L.            |
|                              | Brinjal             | Kattari                | <i>Solanum melongena</i> L.          |
| <b>Non-veg</b>               | Turkey meat         | Vāṅkōḷi kari           | <i>Meleagris gallopavo</i> Linnaeus  |
| <b>Beverages</b>             | Alcoholic Beverages | Kaḷ                    | -                                    |

## Lifestyle

### Recommended Lifestyle<sup>13,22,30,31</sup>

- Educating patients about dermatophytosis preventive measures is crucial for promoting adherence to treatment.
- 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.
- Taking regular showers. Wearing clothes after thoroughly drying the body.
- Drying of 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 (dermatophytosis of the groin) 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.
- Cleanse the shaved area using an astringent based medicated solution, such as *Thiripala Chooranam*, *Padikara paneer*, etc.
- Pañcakarpam bath (Five topical rejuvenators)

### Restricted Lifestyle

- 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 with animal suffering from dermatophytosis.
- Avoid contact with highly infected soil.

### b. Yoga<sup>32,33</sup>

Yoga practice plays a supportive role by:

- Boosting immunity

- Reducing stress (which can worsen fungal infection)
- Enhancing blood circulation to the skin.
- Supportive detoxification and hormonal balance.

**Table 8: Yoga and its benefits**

| A | Asanas (postures)                                                      | Benefits                                           |
|---|------------------------------------------------------------------------|----------------------------------------------------|
|   | Pāmpācaṇam /<br><i>Bhujangasanam</i> (Cobra pose)                      | Stimulate skin, improve digestion and circulation. |
|   | Amarnta kokkācaṇam/ <i>Paschimottanasanam</i><br>(Seated Forward bend) | Detoxifies internal organs.                        |
|   | Artta maccētirācaṇam (Spinal twist)                                    | Liver detox, enhances immunity.                    |
|   | Cēṭupantācaṇam (Bridge pose)                                           | Hormonal balance relieved stress.                  |
|   | Tāṭācaṇam (Mountain pose)                                              | Improve posture, circulation.                      |
|   | Viparīta karṇi (Legs up the wall)                                      | Boost lymphatic drainage, Relieves itching.        |
| B | Pranayamam                                                             | Benefits                                           |
|   | Nāṭi cutti / <i>Anulom Vilom</i>                                       | Balances immunity, calms nervous system            |
|   | <i>Bhastrika</i>                                                       | Improves oxygenation, expels toxins                |
|   | <i>Kapalabhati</i>                                                     | Liver detox, boosts metabolism                     |
|   | <i>Sheetali/Sheetkari</i>                                              | Cooling effect, reduces heat and itching           |
| C | Meditation and relaxation                                              | Benefits                                           |
|   | Tiyāṇam (Mindful meditation)                                           | Lowers stress related flare-ups                    |
|   | Yōka nittirai                                                          | Deep relaxation for immune system repair           |

## 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 dermatophytosis is primarily clinical and made after physical dermatological examination. However, some investigations, like 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 and Eṇ Vakait Tērvu (Eight-Fold System of Clinical Assessment).

## Management:

- Mild degree of inflammation, mild scaling, mild erythema with itching can be treated at OPD.
- Hyperpigmentation and scarring can be managed with external application

## Line of Treatment:

The first line of treatment is to reduce the vitiated uyir tātu -Vaḷi in Puṇṭarīkak Tōl nōy. Detoxification methods namely, therapeutic oil bath, therapeutic purgation are advised to reduce the vitiated kuṛram followed by internal medicines, External medicine, diet and lifestyle.

- **Day 1: Eṇṇey muḷukku (Therapeutic Oil bath)**

*Arakku thylam* and wash with *Ucilantūḷ*<sup>29</sup> (*Albizia odoratissima* (L. f.) Benth) herbal powder

- **Day 2: Intentional Therapeutic rest (No drug / intervention).**

- **Day 3: Kaḷiccal maruttuvam (Therapeutic Purgation)**

*Agathiyar kuzhambu* – 100-130 mg with *Caṅkaṅkuppi* (*Clerodendrum inerme* (L.) Gaertn) *cāru*<sup>34</sup> at early morning in empty stomach for 1 - 3 days

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively.

- **Day 4: Internal & External medicines (Table 9)**

**Table 9: Internal medicines**

| Sr. No.                                  | Drugs                                           | Dosage form (in Siddha) | Dose         | Time               | Duration and Frequency | Adjuvants / Anupaanam                                    |
|------------------------------------------|-------------------------------------------------|-------------------------|--------------|--------------------|------------------------|----------------------------------------------------------|
| <b>Kudineer (Decoction)</b>              |                                                 |                         |              |                    |                        |                                                          |
| 1                                        | <i>Parangipattai kudineer</i> <sup>35</sup>     | Decoction               | 30-60 ml     | BD, BF             | Depends on severity    | -                                                        |
| <b>Chooranam (Medicinal powder)</b>      |                                                 |                         |              |                    |                        |                                                          |
| 2                                        | <i>Parangipattai chooranam</i> <sup>36,37</sup> | Powders                 | 1-2 g        | TDS, AF            | -do-                   | With milk and palm jaggery                               |
| 3                                        | <i>Thiriphala chooranam</i> <sup>38</sup>       | Powders                 | 1-2 g        | TDS, AF            | -do-                   | With water/ honey                                        |
| 4                                        | <i>Nilavaagai chooranam</i> <sup>28</sup>       | Powders                 | 1-2 g        | BD                 | -do-                   | With milk/ honey                                         |
| 5                                        | <i>Elathy chooranam</i> <sup>28</sup>           | Powders                 | 1-2 g        | BD, AF             | -do-                   | With honey                                               |
| <b>Rasayanam (Semi-solid confection)</b> |                                                 |                         |              |                    |                        |                                                          |
| 6                                        | <i>Gandhaga rasayanam</i> <sup>39</sup>         | Semi-solid confection   | 1-3 g        | BD, AF             | -do-                   | With palm jaggery and ghee                               |
| <b>Mezhugu (Medicated wax)</b>           |                                                 |                         |              |                    |                        |                                                          |
| 7                                        | <i>Rasagandhi mezhugu</i> <sup>35</sup>         | Wax                     | 250 -500 mg  | BD, AF for 40 days | -do-                   | With palm jaggery                                        |
| <b>Karuppu</b>                           |                                                 |                         |              |                    |                        |                                                          |
| 8                                        | <i>Sivanar amirtham</i> <sup>40</sup>           |                         | 100 - 200 mg | BD, AF             | Depends on severity    | With honey/ ginger ( <i>Zingiber officinalis</i> ) juice |
| <b>Parpam (White calx)</b>               |                                                 |                         |              |                    |                        |                                                          |
| 9                                        | <i>Palagarai parpam</i> <sup>41</sup>           | White calx              | 50-100 mg    | BD, AF             | -do-                   | With butter/ ghee                                        |
| 10                                       | <i>Sangu parpam</i> <sup>28</sup>               | White calx              | 100-200 mg   | BD, AF             | -do-                   | With milk/ ghee                                          |

## External medicines

| Sr. No.                                  | Drugs                                                                          | Dosage form (in Siddha) | Dose                         | Duration and Frequency  |
|------------------------------------------|--------------------------------------------------------------------------------|-------------------------|------------------------------|-------------------------|
| Poochu (Liniment/semi-solid application) |                                                                                |                         |                              |                         |
| 1.                                       | Juice of Pūvaracaṇ ( <i>Thespesia populnea</i> L.) leaf and bark <sup>28</sup> | Juice                   | Q. S                         | Depends on severity     |
| 2.                                       | Padai sankaraan <sup>34</sup>                                                  | Paste                   | Q. S                         | -do-                    |
| 3.                                       | Arugan thylam <sup>41</sup>                                                    | Oil                     | Q. S                         | -do-                    |
| 4.                                       | Mathan thylam <sup>35</sup>                                                    | Oil                     | Q. S                         | -do-                    |
| 5.                                       | Neer kovai mathirai-Before bath                                                | Tablets/Pills           | 2 tablets with w. w to apply | Twice a day for 32 days |
|                                          | Vanga Virana Kalimbu – After bath <sup>42</sup>                                | Ointment                | 2g to apply                  |                         |
| Kalimbu (Ointment)                       |                                                                                |                         |                              |                         |
| 6.                                       | Kungiliya vennai <sup>35</sup>                                                 | Ointment                | Q. S                         | Depends on severity     |
| 7.                                       | Vanga vennai <sup>35</sup>                                                     | Ointment                | Q. S                         | -do-                    |
| 8.                                       | Seemai agathi kalimbu <sup>28</sup>                                            | Ointment                | Q. S                         | -do-                    |

### Note:

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V.

### Recommended Diet and Lifestyle<sup>13,22,32,33</sup>

Lifestyle and dietary recommendations for patients suffering from dermatophytosis 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 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, kale – rich in

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

- Follow all recommended secondary prevention practices

#### **Restricted Diet & Lifestyle<sup>13,22</sup>**

- Foods such as sugar, refined carbs, alcohol, dairy (in excess), fried foods, fermented foods (during active infection) may be avoided.
- Follow all restricted secondary prevention practices

**Follow Up:** Every 15 days or earlier as per the need.

#### **Reviews should include<sup>22</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 dermatophytosis.

#### **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. Oral administration of the drug is necessary. Monitor the chronic fungal infection by IPD admission

#### **Line of Treatment:**

##### **Day 1: Enṇey muḷukku (Therapeutic Oil bath)**

Same as Level 1

**Day 2:** Intentional Therapeutic rest (No drug / intervention).

### Day 3: Kaḷiccal maruttuvam (Therapeutic Purgation)

- *Meganatha kuligai*<sup>28,34</sup> -100 mg – 1-2 pills with cukku decoction/ ginger (*Zingiber officinale* Roscoe) juice at early morning in empty stomach for one day
- *Murukkan vithai maathirai*<sup>28,34</sup> 100 mg) - 1-2 pills with lukewarm water/ palm jaggery at early morning in empty stomach for one day

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively.

### Day 4: Internal & External medicines (Table 10)

**Table 10: Internal Medicines**

| Sr. No.                             | Drugs                                    | Dosage form (in Siddha) | Dose       | Time   | Duration and Frequency | Adjuvants / Anupaanam |
|-------------------------------------|------------------------------------------|-------------------------|------------|--------|------------------------|-----------------------|
| <b>Chooranam (Medicated powder)</b> |                                          |                         |            |        |                        |                       |
| 1                                   | <i>Seenthil chooranam</i> <sup>28</sup>  | Powders                 | 1-2 g      | BD, AF | Depends on severity    | Milk/ honey           |
| <b>Ilagam (electuary)</b>           |                                          |                         |            |        |                        |                       |
| 2                                   | <i>Mahavallathy ilagam</i> <sup>28</sup> | Electuary               | 3-5 g      | BD, AF | -do-                   | With warm milk        |
| 3                                   | <i>Nellikai ilagam</i> <sup>35</sup>     | Electuary               | 5-10 g     | BD, AF | -do-                   | With warm milk        |
| <b>Mezhugu (Medicated wax)</b>      |                                          |                         |            |        |                        |                       |
| 4                                   | <i>Gandhi mezhugu</i> <sup>43</sup>      | Wax                     | 200-500 mg | BD, AF | -do-                   | With milk             |
| <b>Chenduram (Red calx)</b>         |                                          |                         |            |        |                        |                       |
| 5                                   | <i>Linga Chendooram</i> <sup>28</sup>    | Red calx                | 50-100 mg  | BD, AF | -do-                   | With honey            |
| <b>Parpam (White calx)</b>          |                                          |                         |            |        |                        |                       |
| 6                                   | <i>Silasathu parpam</i> <sup>28</sup>    | White calx              | 200-400 mg | BD, AF | -do-                   | With butter/ ghee,    |

### External medicines

| Sr. No.                                           | Drugs                                                                      | Dosage form (in Siddha) | Dose | Duration and Frequency |
|---------------------------------------------------|----------------------------------------------------------------------------|-------------------------|------|------------------------|
| <b>Poochu (Liniment / semi-solid application)</b> |                                                                            |                         |      |                        |
| 1.                                                | <i>Takarai ilai</i> ( <i>Casia tora</i> L.) with lemon juice <sup>44</sup> | Paste                   | Q. S | Depends on severity    |
| 2.                                                | <i>Pungan thylam</i> <sup>28</sup>                                         | Oil                     | Q. S | -do-                   |
| 3.                                                | <i>Karpogi thylam</i> <sup>35</sup>                                        | Oil                     | Q. S | -do-                   |
| 4.                                                | <i>Karappan thylam</i> <sup>41</sup>                                       | Oil                     | Q. S | -do-                   |

| Sr. No.                        | Drugs                                             | Dosage form (in Siddha) | Dose | Duration and Frequency |
|--------------------------------|---------------------------------------------------|-------------------------|------|------------------------|
| 5.                             | <i>Thiripala thylam</i> <sup>40</sup>             | Oil                     | Q. S | -do-                   |
| <b>Kalimbu (Ointment)</b>      |                                                   |                         |      |                        |
| 6.                             | <i>Mirutharsingi kalimbu</i> <sup>28</sup>        | Ointment                | Q. S | -do-                   |
| <b>Neer (Medicated liquid)</b> |                                                   |                         |      |                        |
| 7                              | <i>Thiripala chooranam kudineer</i> <sup>28</sup> | Liquid                  | Q. S | -do-                   |
| 8.                             | <i>Vengaara neer</i> <sup>28</sup>                | Liquid                  | Q. S | -do-                   |
| <b>Pasai (Medicated cream)</b> |                                                   |                         |      |                        |
| 9.                             | <i>Karpogi pasai</i> <sup>40</sup>                | Cream                   | Q. S | -do-                   |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V.

**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.

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

**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 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. Manage secondary candidal or bacterial infections, and chronic recurrent fungal infections with proper isolation and routine investigations. Treat emotional and psychological distress through yoga and counselling. Prevent recurrence due to malnutrition by giving appropriate diet advice from a dietician

#### Line of Treatment:

**Day 1: Eṇṇey muḷukku (Therapeutic Oil Bath):** Same as Level 1

**Day 2:** Intentional Therapeutic rest (No drug / intervention)

**Day 3: Kaḷiccal maruttuvam (Therapeutic Purgation)**

- *Siththathi ennai*<sup>34</sup>- 3-5 drops with decoction of Cōmpu (*Foeniculum vulgare* Mill). / Fermented rice water at early morning in empty stomach for one day

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively.

**Day 4: Internal & External Medicines (Table 11)**

**Table 11: Internal Medicines**

| Sr. No.                                  | Drugs                                           | Dosage form (in Siddha) | Dose        | Time   | Duration and Frequency | Adjuvants / Anupaanam             |
|------------------------------------------|-------------------------------------------------|-------------------------|-------------|--------|------------------------|-----------------------------------|
| <b>Chooranam (Medicinal powders)</b>     |                                                 |                         |             |        |                        |                                   |
| 1.                                       | <i>Gandhaga chooranam</i> <sup>28</sup>         | Powders                 | 1 g         | BD, AF | Depends on severity    | With milk                         |
| <b>Nei (Medicated Ghee)</b>              |                                                 |                         |             |        |                        |                                   |
| 2.                                       | <i>Serankottai Nei</i> <sup>45</sup>            | Ghee                    | 5-10ml      | BD, AF | -do-                   | With milk                         |
| 3.                                       | <i>Seenthil Nei</i> <sup>35</sup>               | Ghee                    | 5-10ml      | BD, AF | -do-                   | With milk                         |
| <b>Rasayanam (Semi-solid confection)</b> |                                                 |                         |             |        |                        |                                   |
| 4.                                       | <i>Parangipattai rasayanam</i> <sup>28</sup>    | Semi-solid confection   | 3-6 g       | BD, AF | for 40 days            | with warm milk                    |
| <b>Thylam (Medicated oil)</b>            |                                                 |                         |             |        |                        |                                   |
| 5.                                       | <i>Sivanar vembu kuzhi thylam</i> <sup>35</sup> | Oil                     | 5-10 drops  | BD, AF | Depends on severity    | With <i>Sivanarvembu choornam</i> |
| 6.                                       | <i>Gandhaga sudar thylam</i> <sup>35</sup>      | Oil                     | 65-130 mg   | BD, AF | 10 days                | With sugar                        |
| <b>Mezhugu (Medicated wax)</b>           |                                                 |                         |             |        |                        |                                   |
| 7.                                       | <i>Idivallathy mezhugu</i> <sup>28</sup>        | Wax                     | 250 -500 mg | BD, AF | for 40 days            | With palm jaggery                 |

| Sr. No.                            | Drugs                                | Dosage form (in Siddha) | Dose       | Time   | Duration and Frequency | Adjuvants / Anupaanam |
|------------------------------------|--------------------------------------|-------------------------|------------|--------|------------------------|-----------------------|
| 8.                                 | <i>Nandhi mezhugu</i> <sup>46</sup>  | Wax                     | 130-250 mg | BD, AF | for 12/25/45 days.     | With palm jaggery     |
| <b>Karpam (Rejuvenating drugs)</b> |                                      |                         |            |        |                        |                       |
| 9.                                 | <i>Irunelli karpam</i> <sup>35</sup> | Elixir                  | 200mg      | BD, AF | Depends on severity    | With honey            |

## External medicines

| Sr. No.                                           | Drugs                                                                | Dosage form (in Siddha) | Dose | Duration and Frequency |
|---------------------------------------------------|----------------------------------------------------------------------|-------------------------|------|------------------------|
| <b>Poochu (Liniment / semi-solid application)</b> |                                                                      |                         |      |                        |
| 1.                                                | <i>Sirattai thylam</i> <sup>28</sup>                                 | Oil                     | Q. S | Depends on severity    |
| 2.                                                | <i>Sivanar vembu kuzhi thylam</i> <sup>35</sup>                      | Oil                     | Q. S | -do-                   |
| <b>Kalimbu (Ointment)</b>                         |                                                                      |                         |      |                        |
| 3.                                                | <i>Padaikalimbu (Amirtha vennai + Sirattai thylam)</i> <sup>34</sup> | Ointment                | Q. S | -do-                   |
| <b>Pasai (Medicated cream)</b>                    |                                                                      |                         |      |                        |
| 4.                                                | <i>Neeradimuthu pasai</i> <sup>47</sup>                              | Cream                   | Q. S | -do-                   |

### Note:

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V.

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

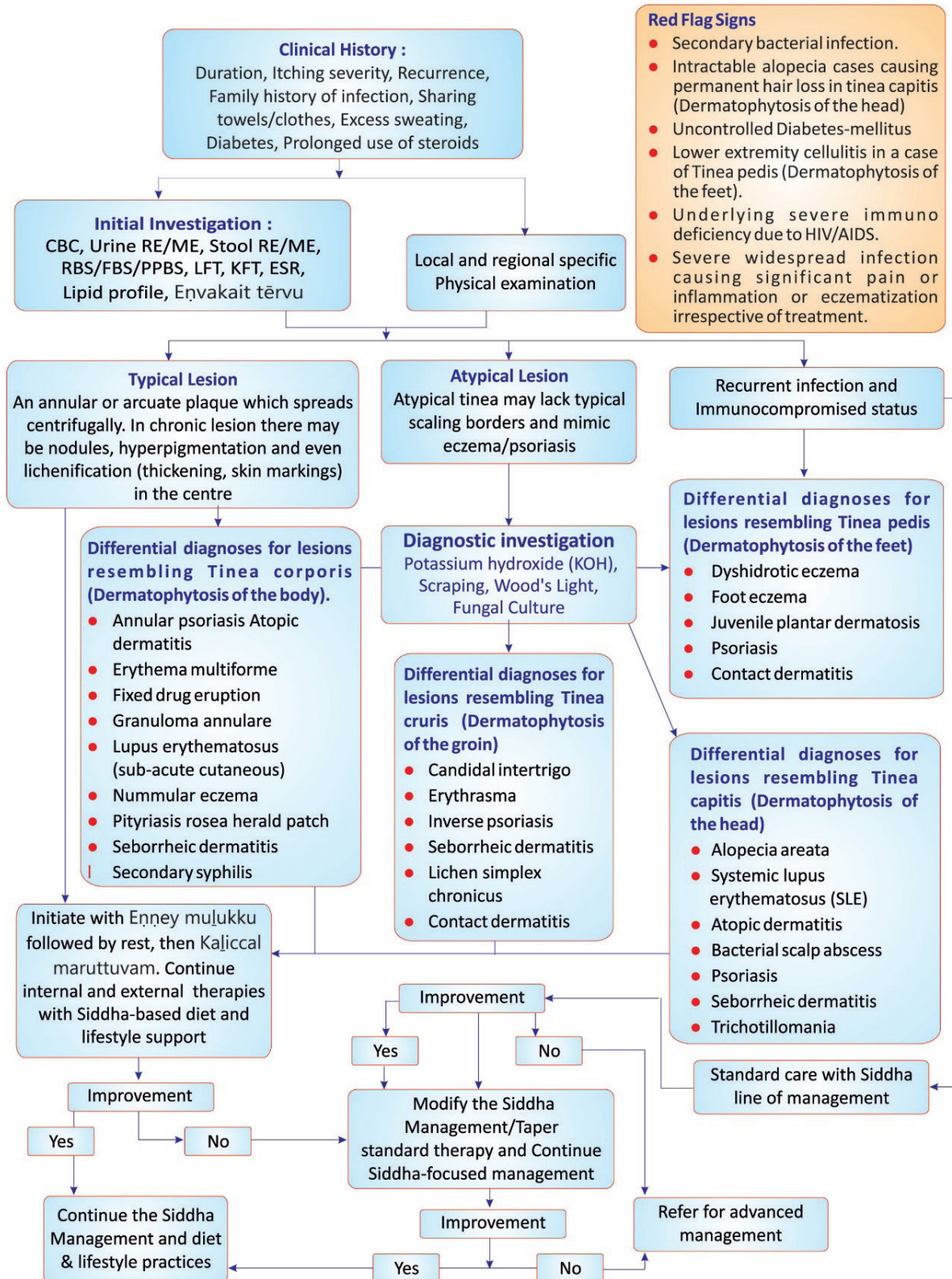
**Restricted Diet and Lifestyle:** Same as levels 1 & 2

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

### Referral Criteria:

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

## Algorithm of treatment process for Paṭartāmarai - Puṇṭarīkak Tōl nōy (Dermatophytosis)



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# 03

## PSORIASIS (Kālāñcakappaṭai)





# PSORIASIS

## Kālāñcakappaṭai

ICD 11 Code: EA90<sup>1</sup>

ICD 11 TM2: SN4A<sup>2</sup>

NSMC: BDB1.1<sup>3</sup>

### CASE DEFINITION<sup>4, 5</sup>

Psoriasis is a common, chronic, inflammatory and proliferative condition of the skin, and 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.

Kālāñcakappaṭai is characterized by erythematous elevated itchy patches with silvery scales in the scalp, palm and sole, hemorrhagic purpura, cracks in the sole and palm. In chronic stages it affects the nail (Psoriatic nail) and joints (Psoriatic Arthropathy).<sup>3</sup>

### INTRODUCTION<sup>4, 6-12</sup> (Incidence/prevalence, morbidity/mortality/risk factors)

- 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>8</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%.

### ETIOLOGY:<sup>13, 14</sup>

In Siddha system of medicine, the etiological factors contributing to skin diseases are attributed to factors such as

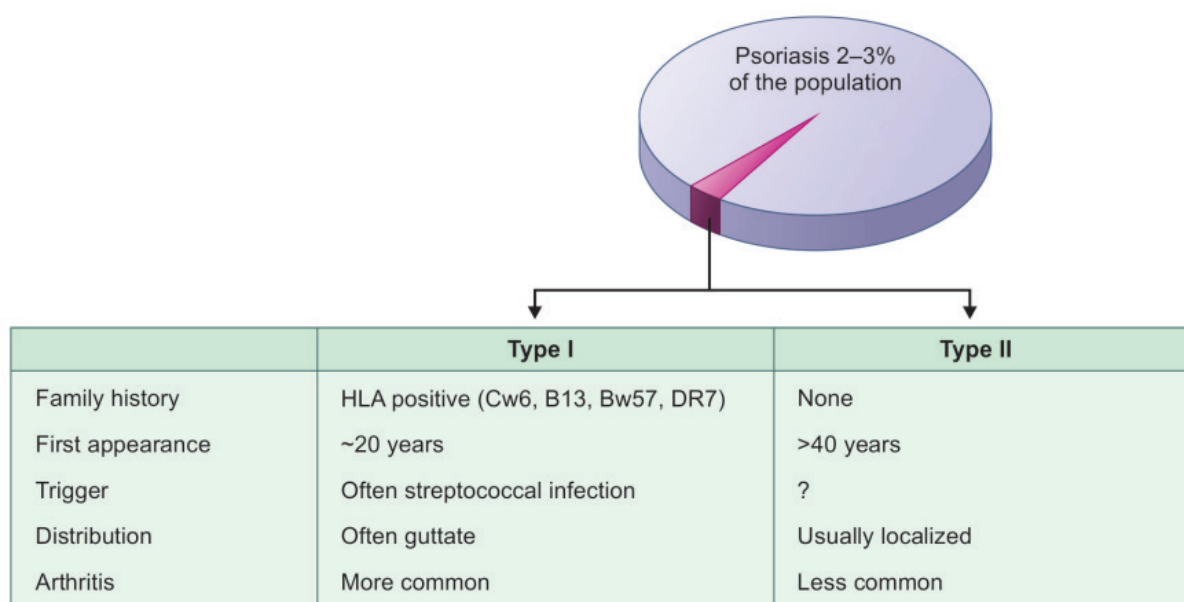
- ◆ Consumption of incompatible and contaminated foods
- ◆ Practicing yoga immediately after eating,
- ◆ Exposure to extreme heat or cold environment
- ◆ Emotional disturbances including sorrow, hypersomnia, violent behavior, indulging in immoral activities

- ◆ Excessive sexual intercourse
- ◆ Engaging in sexual intercourse immediately after consuming oleaginous substances.

## PATHOGENESIS AND ITS THERAPUETIC IMPLICATIONS<sup>8</sup>

### 1. Genetics:

There are two peaks of onset of psoriasis (Fig.1). 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.



**Fig.1** Onset of psoriasis

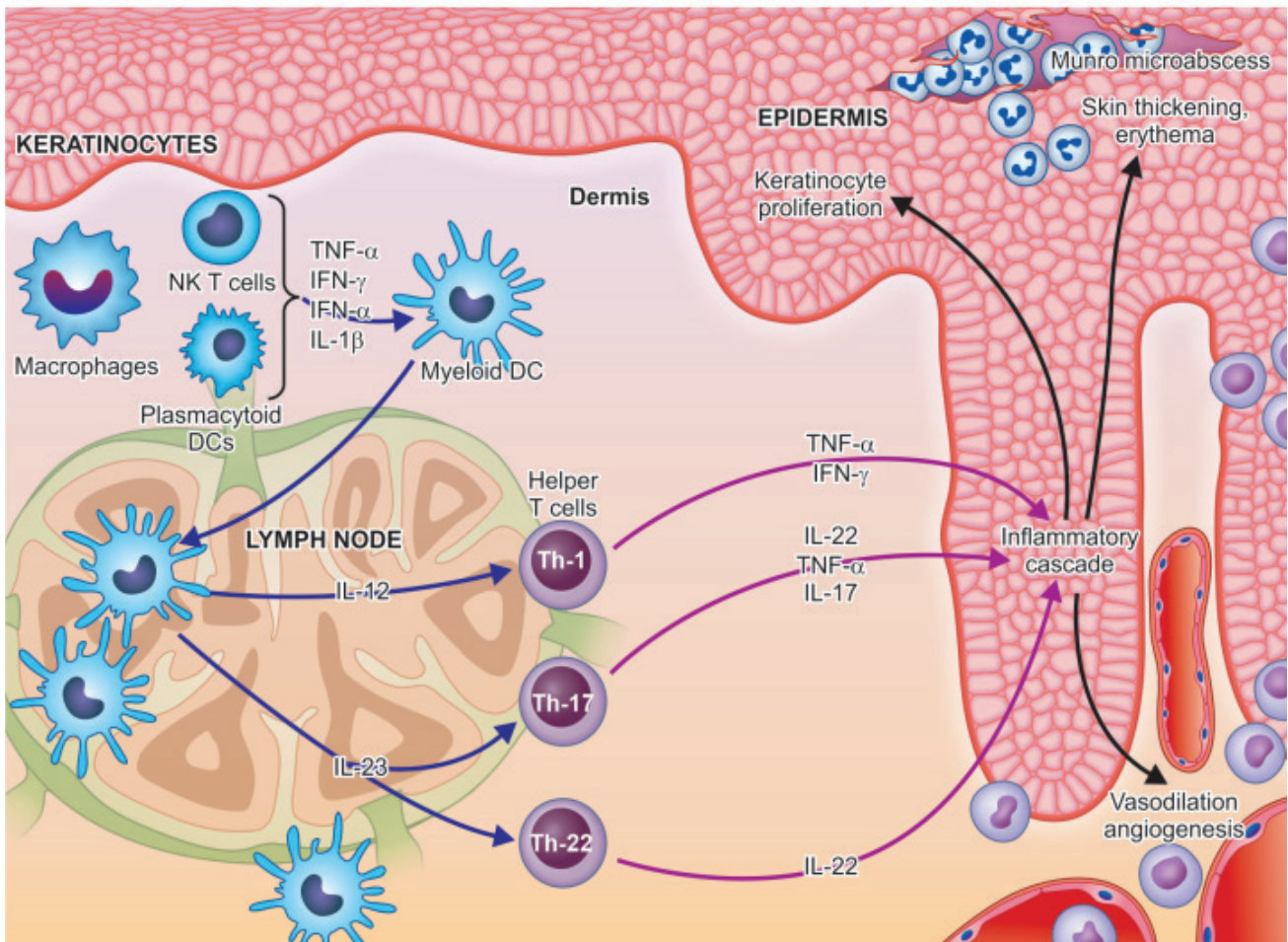
### 2. Hyperproliferation

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

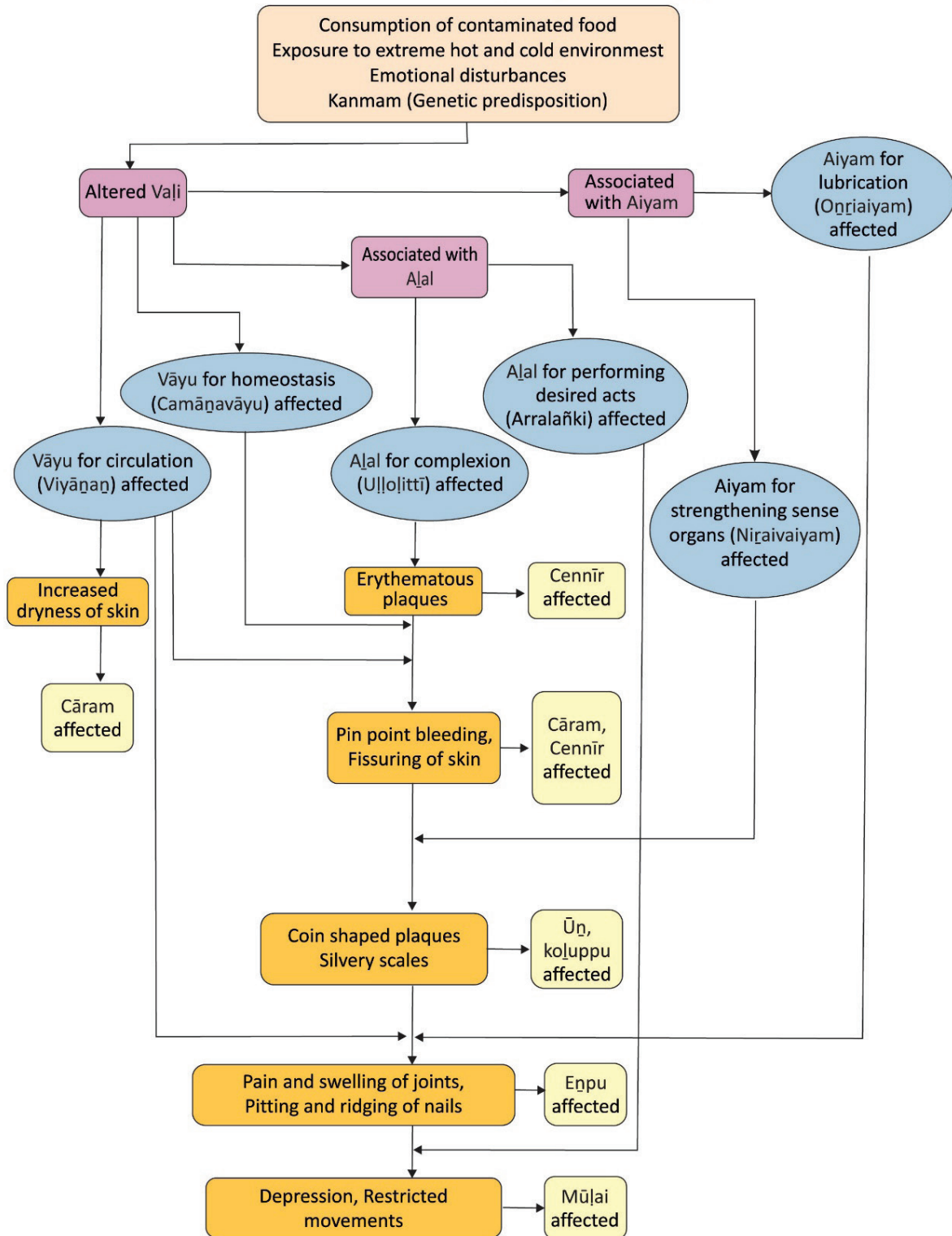
Psoriasis is now known to be a autoimmune disorder with a important role of CD4T cells with Th17 and Th 12 cells playing a important role.<sup>11</sup> Notably these cells are determined by cytokines that are the target of novel drugs known as biologic which have changed the therapeutic of psoriasis.<sup>12</sup>[ Fig 1] 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.2** 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

# Kâlâñcakappatai (Psoriasis) Siddha Pathophysiology



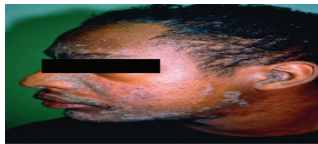
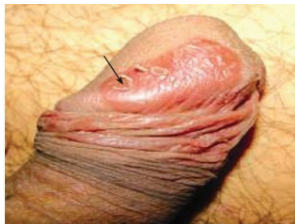
CLINICAL PRESENTATION 4,15-20

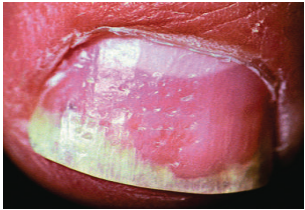
Psoriasis has several clinical variants that differ in severity, location, longevity, shape, cause and pattern. The course of the disease is marked by exacerbations and remissions usually gets worse in winters. Patients may experience more than one type of Psoriasis at the same time. The different types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

Table 1: Types of psoriasis with features

| Types of Psoriasis                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Figure                                                                                |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Clinical forms of psoriasis (based on morphology or natural history)   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                       |
| Plaque Psoriasis                                                       | <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</li><li>• extensor surfaces of the limbs.</li><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>                                                          |    |
| Guttate psoriasis                                                      | <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>                                                                                                                                                             |  |
| Unstable psoriasis (Active psoriasis, eruptive inflammatory psoriasis) | <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>                                                                                                                                                                        |  |
| Erythrodermic psoriasis                                                | <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> |  |

| Types of Psoriasis                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Figure                                                                                |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <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> |    |
| <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>                                                                                                                                                                                                                                                                                           |  |

| Types of Psoriasis                                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                               | Figure                                                                                |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <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>Human Immunodeficiency Virus (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, rupiod psoriasis and erythrodermic psoriasis are less common.</li> </ul> |    |
| <b>Psoriasis affecting specific sites</b>                                    |                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                       |
| <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, pre sternal, 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, sub-mammary 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>                               |  |

| Types of Psoriasis                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  | Figure                                                                                |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <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 discoloured 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>                                                                                                                                                                            |   |
| <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-iloitis can also be seen. The arthritis can be deforming at times.</li> </ul>                                                                                                                                                                             |  |

According to Siddha literature the clinical presentation of Kālāñcakappaṭai is as following: <sup>21</sup>

- Fissure-like cracks develop, leading to pain, thickening, and redness with associated tenderness.
- Itching in aforementioned sites.
- Fatigue
- Thickened red plaques and indurated lesions covered by soft, white, shiny scales
- Pinpoint bleeding on scratching the lesions
- Plaques vary in location, shape, and size and may appear in circular or elongated forms.

- In children, small pustules resembling water droplets may appear on the body, scalp, and face occasionally.
- In chronic cases, scaling is prominently seen on the knees and elbows.
- In some individuals, the palms and soles show thickened, cracked skin with associated scaling.
- In severe cases, the entire body may be affected with extensive erythematous scaling.
- Lesions may resemble coins in shape; sterile pustules can also occur.
- In females, involvement of the axillae, groin folds, or umbilical area may cause oozing.
- Nail involvement may present as transverse pitting and depressions resembling needle pricks.
- About 7% of affected individuals may develop joint pain and inflammation (Psoriatic arthritis).

Kāḷāñcakavātam, the later stage of Kāḷāñcakappaṭai presents with the following features:<sup>22</sup>

- The joints of the fingers, feet, ankles, knees, and sacroiliac region are selectively affected, resulting in pain.
- Deforming erosive arthritis primarily targets the fingers and toes.
- Significant cartilage destruction and bony articulation lead to joint space loss and profound instability.
- The entire body appears pale due to anaemia.
- Well-defined erythematous papules with sharp demarcation develop in the skin.
- Loss of taste and episodes of giddiness may be seen in some cases.

The Siddha system of medicine does not provide a specific classification for psoriasis. However, conditions with similar clinical features are described under various nosological entities. Ēka carma nōy (also referred to as Kaja carma nōy) described in texts such as Yūki Vaittiya Cintāmaṇi shows strong resemblance to plaque psoriasis. Additionally, within the classification of the eighty Vaḷi disorders, Kāḷāñcakavātam characterized by pain in the smaller joints of the hands, feet, knees, and ankles corresponds to Psoriatic arthritis. Other variants of psoriasis are found parallelly such as Vipātika Kuṭṭam described in Ātmaraṭcāmirtam that aligns with erythrodermic psoriasis, while its description in Yūki Vaittiya Cintāmaṇi resembles flexural psoriasis.<sup>13</sup>

## CLINICAL EXAMINATION<sup>20</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.

### Diagnostic Criteria (Siddha)<sup>23</sup>

#### Eṇ Vakait Tērvu (Eight-Fold System of Clinical Assessment)

**Nāṭi** – Vaḷi aḷal / Vaḷi aiyam / Aḷal

**Paricam** - Elevated, hard, uneven structures, itching, scaling

**Nā** - Normal

**Nīram** - Silvery white scales with erythematous plaques, pinpoint bleeding.

**Moḷi** - Low pitched

**Viḷi** - Normal

**Malam** - Normal

**Mūttiram:**

**Nīrkkuri** - Yellowish in colour

**Neykkuri** - Oil may spread in the form of snake/ ring

**Note:** The interpretation of Eṇ Vakait Tērvu may vary depending on factors such as disease severity, chronicity, age, sex, and season

**Table 2: DIFFERENTIAL DIAGNOSIS** 4, 20,24-26

| 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.                                                                                                                                                                                          |
|                          | <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.<br><br>Occurs in <2% of patients with psoriasis, usually affects those aged younger than 30 years; may have an antecedent upper respiratory infection                                                      |

| Psoriasis subtype              | Differential diagnosis             | Characteristic and diagnostic features                                                                                                                                                                                                                                                                                          |
|--------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | <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 Reagin (RPR) 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 is 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 edema to papulo vesiculation.                                                                                                                              |
| <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><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.                                                                                                                                                                                           |

**Table 3: Differential Diagnosis (Siddha)<sup>21</sup>**

| Differential Diagnosis (Siddha) <sup>21</sup> |                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of the condition                         | Characteristic features                                                                                                                                                                                                                                                                                                 |
| <b>Poṭuku (Pityriasis capitis)</b>            | Dandruff is caused by a microscopic fungus on the scalp, leading to itching and powder-like flakes. The itch spreads gradually, forming whitish, ash-like patches with possible hair loss. It can also affect the eyebrows and ears, and in children it may spread to other areas when they scratch with the same hand. |
| <b>Karappāṇ (Eczema)</b>                      | Karappan is a skin disease marked by rough, thick lesions, swelling, small eruptions, scaling, discoloration, and sometimes cracks with fluid oozing. It may or may not cause daily itching.                                                                                                                            |
| <b>Tēmal (Pityriasis rosea)</b>               | It appears on the skin as round or various-shaped patches that grow and spread, sometimes covering the entire body. The affected areas develop clear borders, the skin color changes, and when scratched, powdery flakes fall off. Some patches appear dark, some red, and some cause intense itching.                  |

|                                      |                                                                                                                                                                                                                                         |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Paṭartāmarai (Dematophytosis)</b> | It causes severe itching. The affected skin becomes red or dark with well-defined borders and a burning sensation, leading to constant scratching. Scratching can cause cracks, and some patches become thick and rough like palm bark. |
| <b>Veṇṇapaṭai (Vitiligo)</b>         | It is characterized by pale whitish spots and patches of various sizes appearing abnormally on the body, and at times the hair in those areas may also turn white.                                                                      |

### SUPPORTIVE INVESTIGATIONS <sup>4</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, HIV, Rheumatoid factor 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 in cases of psoriasis of hands, feet, and nails.

**Table 4: Tests for diagnosis<sup>20,24</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).                                                                                                                                                                                                            |
| <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>27</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>28</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 NPSI 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 advise to continue the same along with add-on Siddha medical management 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>18, 29, 30</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

#### a. Primordial prevention: <sup>31</sup>

Primordial prevention refers to strategies that prevent the emergence of risk factors for disease, rather than just preventing the disease itself. In the context of psoriasis, a chronic immune-mediated inflammatory skin disease, primordial prevention would focus on preventing the development of conditions or behaviour that increase the risk of triggering or exacerbating psoriasis.

- 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

In siddha this can be achieved by following the Tēraṅ Piṇi Aṇukā Viti (Disease prevention regimens) listed in Annexure I. <sup>32</sup>

#### b. Primary prevention:

Primary prevention aims to prevent the onset of disease in individuals who are at risk but have not yet developed the condition. Psoriasis, influenced by genetic and

environmental factors, requires primary prevention through risk factor modification and strengthening protective factors in predisposed individuals, such as those with a family history, chronic stress etc.,

- Excessive consumption of stale aquatic organisms such as fish, snails, crabs, and shrimps
- Engaging in yogic exercises immediately after eating,
- Frequent exposure to extreme heat or intense cold
- Prolonged exposure to factors or activities that trigger skin irritation.

#### i. Eṇṇey muḷukku (Therapeutic Oil Bath)

#### ii. Kaḷiccal maruttuvam (Therapeutic Purgation)

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam are mentioned in Annexure II and III respectively.

**iii. Yoga<sup>33</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 *Anulom Vilom* (Alternate Nostril Breathing), *Bhramari* (Humming Bee Breath), and *Kapalbhati* (Skull Shining Breath) will also help in reducing anxiety, emotional stress, cellular healing, reducing stress-related inflammation and promoting a positive mental state.

#### c. Secondary prevention:

#### Recommended Diet and Lifestyle <sup>18,19,33-36</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:

- **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. 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.

**Table 5: Recommended Diet and Lifestyle<sup>37</sup>**

| Diet   | English name              | Tamil name        | Scientific name                     |
|--------|---------------------------|-------------------|-------------------------------------|
| Greens | Silver Cockscomb          | Paṇṇaikkīrai      | <i>Celosia argentea</i> L.          |
|        | Kidney leaf morning glory | Paraṭṭai kīrai    | <i>Ipomoea reniformis</i> Choisy    |
|        | Radish spinach            | Muḷḷaṅki kīrai    | <i>Raphanus sativus</i> L.          |
|        | Balloon Vine              | Muṭakkarrāṇ kīrai | <i>Cardiospermum halicacabum</i> L. |

| Diet                                                                              | English name                                                                                                                                                                                                                                                                                                          | Tamil name             | Scientific name                               |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------|
| The above greens can be consumed in the form of stir-fries, chutneys, and curries |                                                                                                                                                                                                                                                                                                                       |                        |                                               |
| Vegetables                                                                        | Bean                                                                                                                                                                                                                                                                                                                  | Avarai                 | <i>Lablab purpureus</i> (L.) Sweet            |
|                                                                                   | Fig                                                                                                                                                                                                                                                                                                                   | Atti                   | <i>Ficus racemosa</i> L.                      |
|                                                                                   | Drumstick                                                                                                                                                                                                                                                                                                             | Muruṅkai               | <i>Moringa oleifera</i> Lam.                  |
|                                                                                   | Radish                                                                                                                                                                                                                                                                                                                | Muḷḷaṅki               | <i>Raphanus sativus</i> L.                    |
|                                                                                   | Unripe banana                                                                                                                                                                                                                                                                                                         | Vāḷaippiṇcu            | <i>Musa paradisiaca</i> L.                    |
| The above vegetables can be consumed as salad, soup, or curry                     |                                                                                                                                                                                                                                                                                                                       |                        |                                               |
| Fish                                                                              | Spined loach                                                                                                                                                                                                                                                                                                          | Ayirai mīṇ             | <i>Cobitis taenia</i> Linnaeus                |
| Fish may be made into a curry                                                     |                                                                                                                                                                                                                                                                                                                       |                        |                                               |
| Beverages                                                                         | Cow buttermilk                                                                                                                                                                                                                                                                                                        |                        |                                               |
| Lifestyle                                                                         | <ul style="list-style-type: none"><li>Adequate sleep to manage stress and emotional disturbances</li><li>Cover the lesions with breathable fabric to avoid irritation and prevent from scratching</li></ul>                                                                                                           |                        |                                               |
| Rejuvenation                                                                      | <b>Vembu (<i>Azadirachta indica</i>) karpam:</b><br>Tender and mature neem leaves are crushed together and combined with half their quantity of <i>Trachyspermum ammi</i> ( <i>Omam</i> ) and salt. The mixture is then finely ground into a powder and consumed.<br>1 to 2 g BD with Honey for 40 days <sup>37</sup> |                        |                                               |
|                                                                                   | <b>Katrashai (<i>Aloe vera</i>) karpam:</b> <i>Aloe vera</i> can be consumed as either as pickle or dehydrated form.<br>3 to 5 g BD with milk for 40 days <sup>37</sup>                                                                                                                                               |                        |                                               |
| ii. Restricted Diet and Lifestyle <sup>37</sup>                                   |                                                                                                                                                                                                                                                                                                                       |                        |                                               |
| Millets & Pulses                                                                  | Sorghum                                                                                                                                                                                                                                                                                                               | Cōḷam                  | <i>Sorghum vulgare</i> Pers.                  |
|                                                                                   | Pearl millet                                                                                                                                                                                                                                                                                                          | Kampu                  | <i>Pennisetum typhoides</i> Stapf & C.E.Hubb. |
|                                                                                   | Kodo millet                                                                                                                                                                                                                                                                                                           | Varaku                 | <i>Paspalum scrobiculatum</i> L.              |
|                                                                                   | Horse gram                                                                                                                                                                                                                                                                                                            | Kollu                  | <i>Macrotyloma uniflorum</i> Verdc.           |
| Root tubers                                                                       | Sweet potato                                                                                                                                                                                                                                                                                                          | Carkkaraivaḷḷi kiḷaṅku | <i>Ipomoea batatas</i> Lam.                   |
|                                                                                   | Taro root                                                                                                                                                                                                                                                                                                             | Cēppaṅkiḷaṅku          | <i>Colocasia esculenta</i> Schott             |
| Vegetables and fruits                                                             | Ripe banana                                                                                                                                                                                                                                                                                                           | Vāḷaikkāy              | <i>Musa paradisiaca</i> L.                    |
|                                                                                   | Bitter gourd                                                                                                                                                                                                                                                                                                          | Pākaṛkāy               | <i>Momordica charantia</i> L.                 |
|                                                                                   | Mango                                                                                                                                                                                                                                                                                                                 | Māṅkāy                 | <i>Mangifera indica</i> L.                    |
|                                                                                   | Cucumber                                                                                                                                                                                                                                                                                                              | Vellari                | <i>Cucumis sativus</i> L.                     |

| Diet           | English name                                                                                                                                                                                                                                                                                                                                          | Tamil name   | Scientific name                      |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------|
|                | Guar beans                                                                                                                                                                                                                                                                                                                                            | Kottavarai   | <i>Cyamopsis tetragonoloba</i> Taub. |
|                | Guava                                                                                                                                                                                                                                                                                                                                                 | Koyyā        | <i>Psidium guajava</i> L.            |
|                | Brinjal                                                                                                                                                                                                                                                                                                                                               | Kattari      | <i>Solanum melongena</i> L.          |
| Meat & Poultry | Turkey meat                                                                                                                                                                                                                                                                                                                                           | Vāṅkōḷi kari | <i>Meleagris gallopavo</i> Linnaeus  |
|                | Cat fish                                                                                                                                                                                                                                                                                                                                              | Keḷirru mīṇ  | <i>Clarius batracus</i> Linnaeus     |
|                | Other seafood including fish (except Spined loach), crab, prawn                                                                                                                                                                                                                                                                                       |              |                                      |
| Beverages      | Toddy                                                                                                                                                                                                                                                                                                                                                 |              |                                      |
| Others         | <ul style="list-style-type: none"> <li>Sour foods</li> <li>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</li> <li>Excess salt, sugar, alcohol, smoking, sedentary lifestyles, animal fats, red meat and highly processed food</li> </ul> |              |                                      |
| Lifestyle      | <ul style="list-style-type: none"> <li>Stress</li> <li>Consumption of Tobacco and alcoholic beverages</li> <li>Hard soaps, detergents and cosmetics</li> <li>Cleansing skin vigorously</li> </ul>                                                                                                                                                     |              |                                      |

**Vamaṇam (Therapeutic emesis):** The procedure for Vamaṇam is mentioned in Annexure IV

### **Pūccu (Liquid/oil poultice)**

Gently wash the lesions with any of the following decoction:

- *Thriphala kudineer*<sup>10</sup>
- *Arasampattai kudineer* (Bark decoction of *Ficus religiosa*)<sup>10</sup>

Apply medicated oils as prescribed by the treating physician to moisturize the skin and avoid further dryness

#### **i. Pañcakaṛpam (Five topical rejuvenators):<sup>38</sup>**

- Regular application on scalp leads to disease free life.

#### **ii. Nalaṅku mā:<sup>38</sup>**

#### **iii. Mukkūṭṭu Ney Kuḷiyal:<sup>39</sup>**

*Mukkūṭṭu Ney* is a traditional medicated oil formulation composed of three primary base oils:

- **Cirṛāmaṇakku Ney** (*Castor Oil*)
- **Eḷ Ney** (*Sesame Oil*)
- **Pacu Ney** (*Cow Ghee*)

This formulation is used externally to pacify the vitiation of the fundamental humours; *Vali Aḷal* and *Aiyam* When applied to whole body and followed by a bath, *Mukkūṭṭu Ney* helps restore humoral balance and alleviates various disorders associated with their imbalance.

The proportions of the oils are adjusted based on the predominant deranged humour:

**For Vali-related conditions:**

- 1 part Cow Ghee
- 2 parts Sesame Oil
- 3 parts Castor Oil

**For Aḷal related conditions:**

- 1 part Sesame Oil
- 2 parts Castor Oil
- 3 parts Cow Ghee

**For Aiyam-related conditions:**

- 1 part Castor Oil
- 2 parts Cow Ghee
- 3 parts Sesame Oil

**Dietary regimen:**

As mentioned in Eṇṇey Muḷukku (Therapeutic Oil Bath) in Annexure - II

**iv. Exercise:** In apparently healthy, vigorously active individuals, preventing weight gain by promoting vigorous physical activity may help reduce co-morbidity complications.

**v. Siddhar Yogam:** Pirāṇayāmam and Cavāṇam.

**d. Tertiary prevention:**

Tertiary prevention focuses on preventing the progression of psoriasis to metabolic syndrome, cardiovascular disease, obesity, insulin resistance and reducing complications and disability, and improving quality of life in individuals with chronic or severe disease. This can be achieved through appropriate and timely management of disease episodes, prevention of relapses, and incorporation of mobility, physical exercises to maintain function and well-being.

**B. INTERVENTIONS**

**A. 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, Eṇ Vakait Tērvu, some investigations, such as complete hemogram, urine routine/microscopic, C-reactive protein, fasting blood sugar, postprandial blood sugar levels, and serum uric acid levels can be advised.

**Management**

**Line of Treatment:**

**Day 1: Kaḷiccal Maruttuvam (Therapeutic Purgation):**

Vitiated *Vali* to be neutralized by administration of purgative medicines.

- *Meganatha kuligai* (100 mg) – 1-2 pills with lukewarm water at early morning in empty stomach for a day.<sup>40</sup>

- *Agathiyar kuzhambu* – 100-130 mg with *Caṅkaṅkuppi* juice at early morning in empty stomach for a day.<sup>23</sup>
- *Murukkan vithai maathirai* (100 mg) – 1-2 pills with lukewarm water at early morning in empty stomach for a day.<sup>23</sup>

## Day 2: Eṇṇey Muḷukku (Therapeutic Oil bath)

Oil bath twice a week with any of the following oils help in neutralising vitiated humours.

- *Kaiyaan thylam*<sup>41</sup>
- *Nellikai thylam*<sup>41</sup>
- *Mukkootu nei kuliya*

The procedure for Eṇṇey muḷukku and Kaḷiccal maruttuvam are mentioned in Annexure II and III respectively

## Day 3: Rest

## Day 4: Internal medicines

Table 6

| Sr. No.                                  | Drugs                                        | Dosage form (in Siddha) | Dose          | Time  | Duration and Frequency                 | Adjuvants/ Anupaanam |
|------------------------------------------|----------------------------------------------|-------------------------|---------------|-------|----------------------------------------|----------------------|
| <b>Kudineer (Decoction)</b>              |                                              |                         |               |       |                                        |                      |
| 1                                        | <i>Parangipattai Kudineer</i> <sup>42</sup>  | Decoction               | 30 ml - 60 ml | BD AF | Depending on the severity of condition | NA                   |
| <b>Chooranam (Medicinal Powder)</b>      |                                              |                         |               |       |                                        |                      |
| 2                                        | <i>Parangipattai chooranam</i> <sup>43</sup> | Powder                  | 1-2gm         | BD AF | Depending on the severity of condition | Honey/Milk           |
| 3                                        | <i>Elathy chooranam</i> <sup>40</sup>        | Powder                  | 1-2gm         | BD AF | -do-                                   | Water/Honey/Milk     |
| 4                                        | <i>Thiriphala chooranam</i> <sup>44</sup>    | Powder                  | 1-2gm         | BD AF | -do-                                   | Lukewarm water       |
| 5                                        | <i>Amukkara chooranam</i> <sup>45</sup>      | Powder                  | ½-1 gm        | BD AF | -do-                                   | Ghee                 |
| <b>Rasayanam (Semi solid confection)</b> |                                              |                         |               |       |                                        |                      |
| 6                                        | <i>Parangipattai Rasayanam</i> <sup>46</sup> | Semi solid confection   | 8 gm          | BD AF | 40 days                                | -                    |
| 7                                        | <i>Gandhaga rasayanam</i> <sup>47</sup>      | Semi solid confection   | 2 gm          | BD AF | Depending on the severity of condition | Milk                 |
| <b>Ilagam (Electuary)</b>                |                                              |                         |               |       |                                        |                      |
| 8                                        | <i>Vilvathy ilagam</i> <sup>43</sup>         | Electuary               | 5-10gm        | BD AF | Depending on the severity of condition | Milk                 |

| Sr. No.                        | Drugs                                   | Dosage form<br>(in Siddha) | Dose       | Time  | Duration and<br>Frequency              | Adjuvants/<br>Anupaanam |
|--------------------------------|-----------------------------------------|----------------------------|------------|-------|----------------------------------------|-------------------------|
| <b>Mezhugu (Medicated wax)</b> |                                         |                            |            |       |                                        |                         |
| 9                              | <i>Rasagandhi mezhugu</i> <sup>40</sup> | Wax                        | 250-500mg  | BD AF | -do-                                   | Palm Jaggery            |
| 10                             | <i>Gandhaga mezhugu</i> <sup>48</sup>   | Wax                        | 260-390mg  | BD AF | Depending on the severity of condition | Palm Jaggery            |
| <b>Parpam (White Calx)</b>     |                                         |                            |            |       |                                        |                         |
| 15                             | <i>Muthuchippi parpam</i> <sup>40</sup> | White calx                 | 100-200mg  | BD AF | Depending on the severity of condition | Milk                    |
| 16                             | <i>Sangu parpam</i> <sup>40</sup>       | White calx                 | 100-200mg  | BD AF | -do-                                   | Ghee                    |
| 17                             | <i>Palagarai parpam</i> <sup>40</sup>   | White calx                 | 100-200mg  | BD AF | -do-                                   | Milk/ Ghee              |
| 18                             | <i>Gandhaga parpam</i> <sup>48</sup>    | White calx                 | 35mg       | BD AF | -do-                                   | Milk                    |
| 19                             | <i>Muthu parpam</i> <sup>48</sup>       | White calx                 | 30-60mg    | BD AF | -do-                                   | Ghee                    |
| 20                             | <i>Pavala parpam</i> <sup>48</sup>      | White calx                 | 100-200 mg | BD AF | -do-                                   | Milk                    |
| <b>Chendooram (Red Calx)</b>   |                                         |                            |            |       |                                        |                         |
| 11                             | <i>Aya Chendooram</i> <sup>49</sup>     | Red calx                   | 60-130mg   | BD AF | Depending on the severity of condition | Honey                   |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the annexure - V.

**Other procedures (External Medication/Therapies as per applicability)**

➤ **Kattu (Compress /Bandage):**

The plantain leaf is cleaned and tied on the affected area and expose to early morning sunlight.<sup>23</sup>

➤ **Nasiyam (Liquid Nasal application):**

- *Vetpalai Thylam* – 5-10 drops can be instilled in each nostril <sup>23</sup>

**Note:** The duration for which Nasiyam is administered depends on the physician's discretion, the nature of the medicine, and the severity of the disease.

➤ **Pūccu (Liquid/oil poultice):**

- *Arugan Thylam* - Quantity sufficient<sup>40</sup>
- *Pungan Thylam* - Quantity sufficient<sup>21</sup>
- *Vetpaalai Thylam* - Quantity sufficient<sup>21</sup>

**Recommended Diet & Lifestyle**

- Follow recommended and restricted diet as mentioned in secondary prevention
- Follow appropriate diet regimen as specified for certain drugs wherever applicable

**Restricted Diet & Lifestyle**

- Follow restricted diet and lifestyle as mentioned in secondary prevention

**Follow Up (every 15 days or earlier as per the need)** <sup>50</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>44</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

**B. 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 centre

**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.

Patients with a PASI score of 5–10 and a DLQI score up to 5 indicative of moderate psoriasis may be managed with the following medications.<sup>51</sup>

#### Line of treatment:

#### Day 1: Kaḷiccal Maruttuvam (Therapeutic Purgation):

Vitiated Vali to be neutralized by administration of any one of the following purgative medicines.

- *Siddhathi ennei* - 3 to 5 drops with *Nisineer* (Fermented rice water) or *Sombu Kudineer* (*Foeniculum vulgare* Mill. decoction) at early morning in empty stomach for a day.<sup>40</sup>

**Day 2: Eṇṇey muḷukku (Therapeutic oil bath)** - As described under eṇṇey muḷukku and Mukkoottu Nei Kuliya

#### Day 3: Rest

#### Day 4: Internal medicines

**Table 7: Same as Level 1 along with the following medicines**

| Sr. No.                             | Drugs                                    | Dosage form (in Siddha) | Dose        | Time  | Duration and Frequency                 | Adjuvants/ Anupaanam |
|-------------------------------------|------------------------------------------|-------------------------|-------------|-------|----------------------------------------|----------------------|
| <b>Chooranam (Medicinal Powder)</b> |                                          |                         |             |       |                                        |                      |
| 1                                   | <i>Seenthil chooranam</i> <sup>43</sup>  | Powder                  | 1-2gm       | BD AF | Depending on the severity of condition | Ghee                 |
| <b>Nei (Medicated ghee)</b>         |                                          |                         |             |       |                                        |                      |
| 2                                   | <i>Senkottai Nei</i> <sup>40</sup>       | Ghee                    | 10-15 drops | BD AF | -do-                                   | Milk                 |
| <b>Ilagam (Electuary)</b>           |                                          |                         |             |       |                                        |                      |
| 3                                   | <i>Mahavallathy ilagam</i> <sup>52</sup> | Electuary               | 3-5gm       | BD AF | -do-                                   | Milk                 |
| <b>Maathirai (Pills/tablets)</b>    |                                          |                         |             |       |                                        |                      |
| 4                                   | <i>Ganthaga maathirai</i> <sup>23</sup>  | Pills/Tablets           | 1-2 pills   | BD AF | -do-                                   | Milk                 |

| Sr. No.                      | Drugs                                            | Dosage form (in Siddha) | Dose      | Time  | Duration and Frequency | Adjuvants/ Anupaanam                             |
|------------------------------|--------------------------------------------------|-------------------------|-----------|-------|------------------------|--------------------------------------------------|
| <b>Pathangam (Sublimate)</b> |                                                  |                         |           |       |                        |                                                  |
| 5                            | <i>Parangipattai pathangam</i> <sup>53</sup>     | Sublimate               | 100-200mg | BD AF | -do-                   | Palm jaggery                                     |
| <b>Chendooram (Red calx)</b> |                                                  |                         |           |       |                        |                                                  |
| 6                            | <i>Kalameganarayana Chendooram</i> <sup>54</sup> | Red calx                | 50-100mg  | BD AF | -do-                   | 1-2gm of <i>Thirikadugu chooranam</i> with Honey |
| 7                            | <i>Naga Chendooram</i> <sup>48</sup>             | Red calx                | 65-130mg  | BD AF | -do-                   | Honey                                            |
| 8                            | <i>Kaantha Chendooram</i> <sup>48</sup>          | Red calx                | 65-130mg  | BD AF | -do-                   | Hot water                                        |
| 9                            | <i>Linga Chendooram</i> <sup>23</sup>            | Red calx                | 65-130mg  | BD AF | -do-                   | Honey                                            |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the annexure - V.

**Other procedures (External Medication /Therapies as per applicability)**

In addition to the procedures mentioned in Level-1

➤ **Suttigai (cauterization):**

- Kanthi suttigai at affected site with *Vetpalai Thylam* in the evening.<sup>23</sup>

➤ **Siddhar Yogam:**

- *Marasanam*<sup>55</sup>
- *Balasanam*<sup>55</sup>
- *Macrasanam*<sup>55</sup>
- *Sarvaangaasanam*<sup>37</sup>
- *Padmasanam*<sup>37</sup>
- *Savasanam*<sup>55</sup>

- *Pranayamam* <sup>55</sup>
- *Dhiyanam* <sup>55</sup>

**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.

**C. 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.

Patients with a PASI score greater than 10 and a DLQI score greater than 6 indicative of severe psoriasis may be managed with the following medications.<sup>51</sup>

#### Line of treatment:

##### Day 1: *Kāḷiccal Maruttuvam* (Therapeutic Purgation)\*:

- *Karudankizhangu thylam* - 8 - 14 ml with milk at morning in empty stomach for a day.<sup>40</sup>

**Day 2: *Eṇṇey muḷukku* (Therapeutic Oil bath)** - As described under *eṇṇey muḷukku* (Refer Annexure) and *Mukkoottu Nei Kuliya*

##### Day 3: Rest

##### Day 4: Internal medicines

Same as Level-1 & 2 along with the following additional medicines

Table 7:

| Sr. No.                             | Drugs                                           | Dosage form (in Siddha)     | Dose         | Time      | Duration and Frequency                 | Adjuvants/ Anupaanam          |
|-------------------------------------|-------------------------------------------------|-----------------------------|--------------|-----------|----------------------------------------|-------------------------------|
| <b>Kudineer (Decoction)</b>         |                                                 |                             |              |           |                                        |                               |
| 1                                   | <i>Maha Manjishtadhi kashayam</i> <sup>56</sup> | Decoction                   | 30ml         | BD<br>AF  | 48 days                                | NA                            |
| <b>Chooranam (Medicinal Powder)</b> |                                                 |                             |              |           |                                        |                               |
| 2                                   | <i>Sivanarvembu Chooranam</i> <sup>40</sup>     | Powder                      | 1-2gm        | BD<br>AF  | Depending on the severity of condition | Milk                          |
| 3                                   | <i>Karisalai chooranam</i> <sup>57</sup>        | Powder                      | 1-2gm        | TDS<br>AF | -do-                                   | Honey                         |
| 4                                   | <i>Karunchoorai chooranam</i> <sup>22</sup>     | Powder                      | 2gm          | BD<br>AF  | 48 days                                | Ghee                          |
| <b>Thylam (Medicated oil)</b>       |                                                 |                             |              |           |                                        |                               |
| 5                                   | <i>Sivanarvembu kuzhi thylam</i> <sup>23</sup>  | Oil                         | 20-30 drops  | OD<br>AF  | Depending on the severity of condition | <i>Sivanarvembu chooranam</i> |
| 6                                   | <i>Gandhaga Sudar thylam</i> <sup>23</sup>      | Oil                         | 500mg        | BD<br>AF  | 10 days                                | Unrefined Sugar               |
| <b>Mezhugu (Medicated wax)</b>      |                                                 |                             |              |           |                                        |                               |
| 6                                   | <i>Nandhi Mezhugu</i> <sup>40</sup>             | Wax                         | 100mg-500 mg | BD<br>AF  | Depending on the severity of condition | Palm jaggery                  |
| 7                                   | <i>Idivallathy Mezhugu</i> <sup>40</sup>        | Wax                         | 500mg-1gm    | BD<br>AF  | -do-                                   | Palm jaggery                  |
| <b>Karpam (Rejuvenating drug)</b>   |                                                 |                             |              |           |                                        |                               |
| 8                                   | <i>Irunelli Karpam</i> <sup>23</sup>            | Rejuvenating drug           | 100-200mg    | BD<br>AF  | Depending on the severity of condition | Milk                          |
| <b>Chendooram (Red calx)</b>        |                                                 |                             |              |           |                                        |                               |
| 9                                   | <i>Sivanar amirtham</i> <sup>40</sup>           | Red calx ( <i>Karuppu</i> ) | 100-200mg    | BD<br>AF  | -do-                                   | Honey                         |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.

- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V.

### **Other procedures (External Medication Therapies as per applicability)**

In addition to the procedures mentioned in Level-I and Level - II

#### ➤ **Poochu (Liquid/ Oil Poulitice):**

- *Chembaruthi poo ennai*<sup>56</sup>
- *Sangamver thylam*<sup>23</sup>
- *Kodiveli thylam*<sup>22</sup>
- *Vettiver thylam*<sup>45</sup>
- *Naanguneri Ennai*<sup>21</sup>

#### ➤ **Kurthivaangal (Bloodletting)**<sup>58</sup>

##### **I) Pre-treatment Procedure:**

- Assess vitals and patient consciousness
- Confirm diagnosis and indication for procedure
- Review allergies and physician's instructions
- Examine the site for vein prominence, local signs of infection or inflammation, and presence of previous interventions such as bandages or scars.
- Mark and prepare the site
- Shave the area if needed to ensure visibility and hygiene
- Ensure patient is appropriately dressed and ornaments removed
- Verify ability to follow instructions

##### **II) Treatment Procedure:**

- Assemble required articles at bedside or therapeutic room
- Clean hands thoroughly and wear gloves
- Explain the procedure and position the patient appropriately
- Assess the site of venesection
- Cleanse the site with antiseptics
- Make a controlled prick or incision at the selected site.
- If bleeding does not initiate, apply mild pressure around the site to stimulate flow.
- Observe the blood for: Color, Consistency, Flow characteristics
- Record the approximate quantity of blood loss.
- Apply appropriate dressing
- Continue the procedure for 10 to 30 minutes or until the desired outcome is achieved.
- Observe the patient for 30 minutes post-procedure
- Record the duration and details of the procedure
- Monitor for any post-procedure bleeding or complications

### III) Post treatment Procedure:

- Apply a compress using turmeric powder, alum, borax, *Kadukkai chooranam* to arrest bleeding.
- In cases of excessive bleeding, sprinkle hemostatic powders such as *Mācikkāy*, *Kācukkattī*, *Pākkū*, *Kaṭukkāy*, *Kariyapōḷam*, or *Paṭikāram* (Alum) over the site.
- Remove dressing after 12–24 hours
- Clean the area gently
- Replace the absorbent pad
- Re-dress the site as required

**Restricted Diet & Lifestyle:** As mentioned in Level-1 management

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

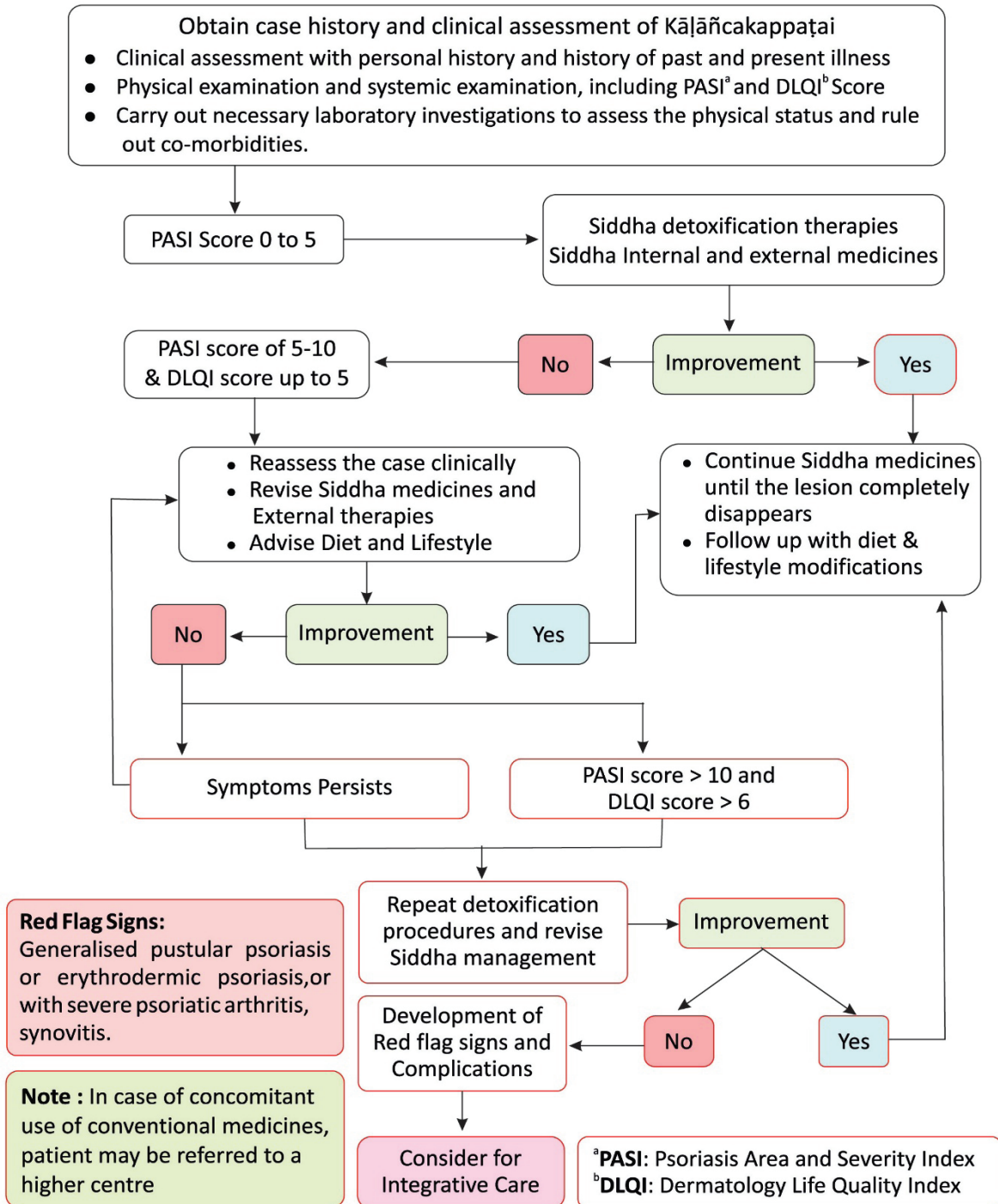
**Restricted Diet and Lifestyle:** Same as levels 1 & 2

**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 Kālāñcakappaṭai (Psoriasis)



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# URTICARIA

## (Kāṇākkaṭi)



# URTICARIA

## Kāṇākkāṭi

ICD 11 Code: EB00.1<sup>1</sup>

ICD – 11TM2 Code: SN4K<sup>2</sup>

NSMC Code: BEB1.1<sup>3</sup>

### CASE DEFINITION

Urticaria (hives) is characterized by the rapid onset of lesions known as wheels 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>4,5</sup>

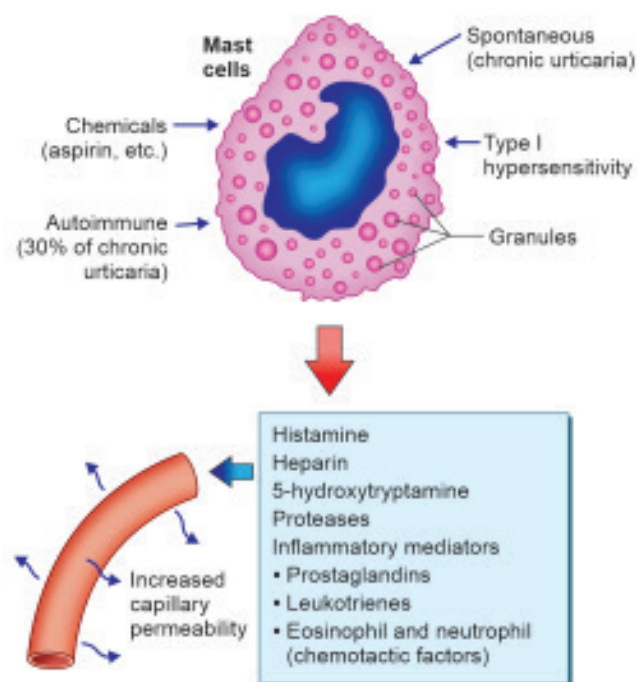
Kāṇākkāṭi<sup>6</sup> is an allergic reaction to unknown bites, food, medications, or other irritants might cause a skin rash. It is characterized by erythematous rashes / soft elevated patches in the skin, itching, pain or tenderness due to unidentified causes. It is called as Kāṇākkāṭi, (unknown bite) since the exact etiology of this disease is unknown.

### INTRODUCTION<sup>7-10</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>7</sup>
- It can be seen in all age and sex but it 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>8</sup>
- Urticaria is a mast cell–driven disorder characterized by the recurrent development of hives (urticaria) and/or swelling (angioedema).<sup>7</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.<sup>9</sup> 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 dermographism, 2% had cold-induced, 1.3% aquagenic, and 1.7% cholinergic urticaria.<sup>10, 11</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, pseudo allergic, toxic, and physical mechanisms <sup>4</sup>

- Urticaria is allergic, when specific antigens crosslink specific IgE antibodies attached to mast cells.
- Pseudo allergic 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>4</sup>**

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

|                   |                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------|
| Inhalants         | Pollen, molds, dust mites and animal dander                                                          |
| Systemic diseases | Lupus erythematosus, still's disease, thyroid disease, cryoglobulinemia, mastocytosis and carcinomas |
| Emotional stress  |                                                                                                      |
| Idiopathic (~50%) |                                                                                                      |

### 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.
- Auto allergic Variety also known as Type I CSU.
- Chronic infections.
- Intolerance to food components.

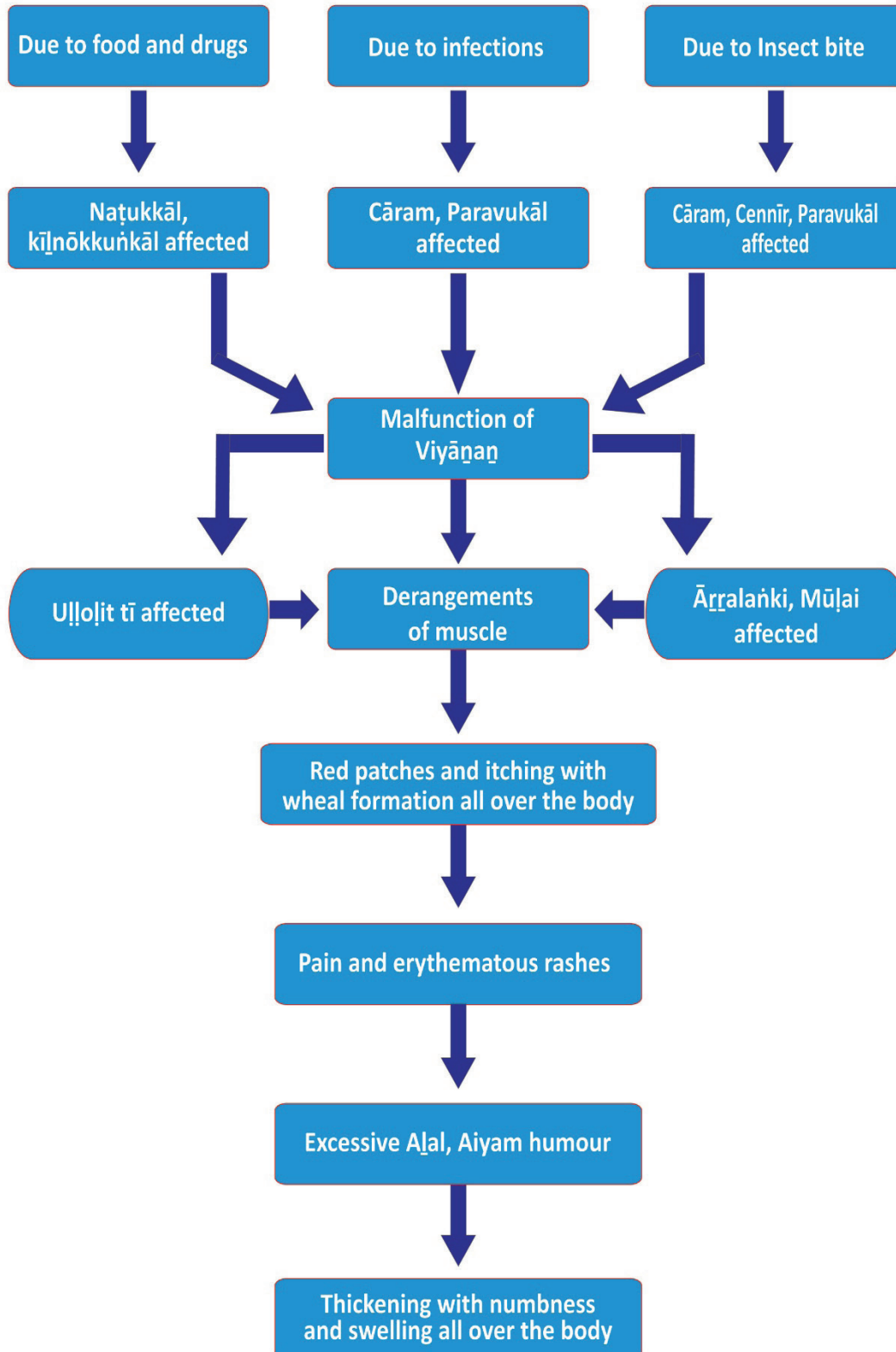
**Table 2: Causes of Chronic Urticaria <sup>4</sup>**

|                   |                                                     |
|-------------------|-----------------------------------------------------|
| Autoreactivity    | Autoimmunity (anti -FceRI-Ab, anti-IgE-Ab) (40-50%) |
| Chronic infection | Hepatitis B, <i>H. pylori</i>                       |
| Intolerance       | Foods, Drugs, Pseudoallergy                         |
| Other causes      | Type I allergy, Internal disease                    |
| Idiopathic        | -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.

According to Siddha, Kāṇākkaṭi arises from the aggravation Viyāṇaṇ and Pirācakam (red patches and itching). In Uṭal tātukkaḷ, increased Cāram, Cennīr leads to pain and erythematous rashes<sup>12</sup> and excessive 'Aḷal aiyam / Pitta kapam' humour, resulting in thickening, numbness, and swelling all over the body.<sup>13</sup>

## Kāṇākkaṭi (Urticaria) - Siddha Pathophysiology



## CLINICAL PRESENTATION<sup>14-18</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 24 hours without residual marks. They cause intense pruritus and/or burning sensations. These lesions usually do not last beyond 24 hrs.<sup>6</sup>
- **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; characteristics 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>19</sup>

- Type/Appearance of lesions
- Size

- Shape
- Colour of lesions
- Margin
- Number
- Site of lesion
- Distribution-whether lesions are localized or generalized.

**Table 3: Classification of urticaria**

| Classification of urticaria based on duration and cause <sup>20-22</sup>      |                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute spontaneous urticaria                                                   | Characterized by the sudden appearance of wheels and/or angioedema lasting less than six weeks.                                                                                                                |
| Chronic spontaneous urticaria (CSU)                                           | Refers to spontaneous wheels 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 |
| Chronic inducible urticaria (CIndU)                                           | Involves wheels 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>20-22</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 elicit urticaria.                                                                                                                                 |

**DIFFERENTIAL DIAGNOSIS**<sup>23, 24, 25</sup>

**Table 4: Differential diagnosis of Urticaria**

| Differential diagnosis                        | Characteristic and diagnostic features                                                                                                                                                                   |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Urticarial vasculitis                         | Wheals lasting >24 h, often painful/burning, with residual hyperpigmentation or purpura. May be present with systemic symptoms (fever, arthralgia, nephritis); biopsy shows leukocytoclastic vasculitis. |
| Cutaneous mastocytosis (urticaria pigmentosa) | Brown/orange lesions, positive Darier’s sign (wheal upon stroking), smaller fixed lesions.                                                                                                               |
| Bullous pemphigoid (prodromal)                | Urticarial plaques evolving into tense bullae; histopathology shows subepidermal blisters with Eosinophilic infiltrate.                                                                                  |
| Urticarial dermatitis                         | Mix of urticarial wheals and eczematous patches; spongiosis and lymphocytic infiltrate on biopsy.                                                                                                        |
| Cutaneous lupus erythematosus                 | May mimic urticaria; biopsy reveals interface dermatitis, basal vacuolization, mucin deposition.                                                                                                         |

| Differential diagnosis                                       | Characteristic and diagnostic features                                                                                                                         |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Henoch–Schönlein purpura, (IgA vasculitis), cryoglobulinemia | Purpuric vasculitis lesions, systemic signs (renal, joint, abdominal).                                                                                         |
| Fixed drug eruption                                          | A drug reaction that occurs at the same location on skin with each exposure to a specific drug, potentially mimicking urticaria.                               |
| Atopic dermatitis                                            | It can sometimes be present with urticarial lesions.                                                                                                           |
| Insect bites                                                 | It can cause localized urticarial lesions.                                                                                                                     |
| Pityriasis rosea                                             | It may be mistaken for urticaria due to its appearance, but it has a characteristic herald patch and follows a specific pattern of distribution.               |
| Contact dermatitis                                           | It can sometimes manifest as urticarial lesions, especially in irritant or allergic contact dermatitis.                                                        |
| Sweet syndrome (Acute febrile neutrophilic dermatosis)       | The condition may be present with urticarial (oedematous, erythematous plaques that can mimic urticaria) lesions along with fever and other systemic symptoms. |

| Siddha                                          |                                                                                                                                                                                                                    |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Differential diagnosis                          | Characteristic and diagnostic features                                                                                                                                                                             |
| Pitta karappāṇ <sup>27</sup> (Pityriasis rosea) | Drooping of the eye lids, loosening of the helix, burning sensation and increased temperature, vertigo, weakness, yellowish discolouration, loss of appetite, anorexia and creeping sensation                      |
| Ciraṅku (Scabies)                               | Ciraṅku initially begins with itching followed by the appearance of one or more small, kernel-like papules in the affected area. These may quickly develop into tiny pus-filled blisters occurring within seconds. |

## SUPPORTIVE INVESTIGATIONS<sup>26-33</sup>

Some principles that determine the investigation are as follows:<sup>4</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. Certain drugs like anti histamines, Omalizumab and BTK inhibitors are prescribed on the basis of these tests and endotype classification. By keeping these principles, the investigation strategy for Acute and CSU are mentioned below (Table 4 & 5) and provocative tests for CINDU are given in Table 6.

**Table 5- Investigations for Acute Urticaria**

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

\*Note: 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 6: Investigations for CSU<sup>34</sup>**

| Differential blood count. ESR and/or CRP, IgG anti- TPO and total IgE                                                                                                                                                                                                                               | Routine Tests                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul 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>v. Other (e.g. lesional skin biopsy)</li> </ul> | Extended diagnostic Tests<br>For identification of underlying causes or eliciting factors and for ruling out possible differential diagnoses if indicated based on history. |

**Table 7:- Investigations for CIndU**

| Challenge test/ Provocative test:<br><br>Recommendations for confirming the relevance and threshold of triggers 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. |

## DIAGNOSTIC CRITERIA

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

### En Vakait Tērvu (Eight-Fold System of Clinical Assessment)<sup>6</sup>

|                |                                                         |
|----------------|---------------------------------------------------------|
| <b>Nāṭi</b>    | - Pitta vātam/ Pitta kapam                              |
| <b>Parīcam</b> | - Wheels /redness                                       |
| <b>Nā</b>      | - Coated / angioedema of lips, tongue may be present    |
| <b>Nīram</b>   | - Redness/ pallor                                       |
| <b>Molī</b>    | - Low pitched                                           |
| <b>Viḷi</b>    | - Swelling around eyes/ redness/ irritation may be seen |

**Malam** - Normal/ constipation/ diarrhoea

**Mūttiram**

- **Nīrkkuri** - Yellowish in colour, tamarind odour
- **Neykkuri** - Oil may spread in the form of snake/ring/pearl.

**Note:** Depending upon the severity of the disease, chronicity, age, sex, season, the interpretation of En Vakait Tērvu may change/alter may be added.

**PRINCIPLES OF MANAGEMENT** <sup>35, 36</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.

**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>35-36</sup>

**a. Primary**

- Hydration: Maintain adequate water intake to support skin hydration and overall health.
- Avoid known triggers like spices, herbs, fermented foods, fermented 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 change clothes.
- Enṇey muḷukku (Therapeutic Oil bath)
- Kaliccal maruttuvam (Therapeutic Purgation)

**Table 8: Food to be Avoided**

| Diet                                           | Category                                                                                                                                                                                    | English name | Tamil name    |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|
| Food                                           | Dairy                                                                                                                                                                                       | Milk         | Pāl           |
|                                                |                                                                                                                                                                                             | Cheese       | Pālāṭaikkāṭṭi |
|                                                | Fish and poultry                                                                                                                                                                            | Egg          | Muṭṭai        |
|                                                |                                                                                                                                                                                             | Fish         | Mīṇ           |
|                                                |                                                                                                                                                                                             | Shellfish    | Cippi mīṇ     |
|                                                | Vegetable                                                                                                                                                                                   | Mushrooms    | Kālāṇ         |
| Food additives                                 | Tartrazine dyes, Benzoic acid derivatives, etc.,                                                                                                                                            |              |               |
| Food preservatives / antioxidant preservatives | Butylated hydroxytoluene (BHT), Butyl hydroxyanisole (BHA) <sup>37</sup>                                                                                                                    |              |               |
| Drugs                                          | <ul style="list-style-type: none"> <li>• Penicillin, Salicylates, Sulphonamides etc.,</li> </ul>                                                                                            |              |               |
| Injectants                                     | <ul style="list-style-type: none"> <li>• Insect bites,</li> <li>• Injection - drug, sera, blood, etc.</li> <li>• Inhalants – Pollen, Mold</li> <li>• Pollen, animal dander, etc.</li> </ul> |              |               |
| Infestation by parasites                       | <ul style="list-style-type: none"> <li>• Amoebiasis, Giardiasis</li> </ul>                                                                                                                  |              |               |
| Worm                                           | <ul style="list-style-type: none"> <li>• Hookworm, round worm</li> </ul>                                                                                                                    |              |               |
| Natural                                        | <ul style="list-style-type: none"> <li>• Exposure to extreme cold, sun (solar urticaria), heat, Exercise, Stress</li> </ul>                                                                 |              |               |
| Illnesses                                      | <ul style="list-style-type: none"> <li>• Types of vasculitis, lupus and thyroid disease</li> </ul>                                                                                          |              |               |
| Exposure                                       | <ul style="list-style-type: none"> <li>• Pressure on the skin, such as from sitting too long</li> <li>• Contact with chemicals</li> <li>• Scratching the skin</li> </ul>                    |              |               |

**Secondary:**

- Lifestyle modification
- Dietary advice
- Siddhar Yogam

**I. Table 9: Recommended Diet and Lifestyle**

| Diet                                                                              | English Name     | Tamil name        | Scientific name                     |
|-----------------------------------------------------------------------------------|------------------|-------------------|-------------------------------------|
| Greens                                                                            | Silver Cockscomb | Paṇṇaikkīrai      | <i>Celosia argentea L.</i>          |
|                                                                                   | Radish Spinach   | Muḷḷāṅki kīrai    | <i>Raphanus sativus L.</i>          |
|                                                                                   | Ballon Vine      | Muṭakkarrāṇ kīrai | <i>Cardiospermum halicacabum L.</i> |
| The above greens can be consumed in the form of stir-fries, chutneys, and curries |                  |                   |                                     |
| Vegetables                                                                        | Bean             | Avarai            | <i>Lablab purpureus (L.) Sweet</i>  |
|                                                                                   | Fig              | Atti              | <i>Ficus racemosa L.</i>            |

| Diet                                                          | English Name  | Tamil name     | Scientific name                |
|---------------------------------------------------------------|---------------|----------------|--------------------------------|
|                                                               | Drumstick     | Muruṅkai       | <i>Moringa oleifera</i> Lam.   |
|                                                               | Radish        | Muḷḷaṅki       | <i>Raphanus sativus</i> L.     |
|                                                               | Tender banana | Vāḷaippiṇcu    | <i>Musa paradisiaca</i> L.     |
| The above vegetables can be consumed as salad, soup, or curry |               |                |                                |
| Fish                                                          | Spined loach  | Ayirai mīṇ     | <i>Cobitis taenia</i> Linnaeus |
| Fish may be steamed, sautéed or made into a curry             |               |                |                                |
| Beverages                                                     |               | Cow buttermilk |                                |

## II. Restricted diet and life style: Table 10

| Category                      | English name                                                                                   | Tamil name        | Scientific name                                                       |
|-------------------------------|------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------|
| Vegetables & Legumes          | Tamarind                                                                                       | Puḷi              | <i>Tamarindus indica</i> L.                                           |
|                               | Brinjal                                                                                        | Kattari           | <i>Solanum melongena</i> L.                                           |
|                               | Peanut                                                                                         | Vērkkāṭalai       | <i>Arachis hypogaea</i> L.                                            |
|                               | Soya                                                                                           | Cōyā              | <i>Glycine max</i> L. Merr.                                           |
| Cereals & Millets             | Pearl millet                                                                                   | Kampu             | <i>Pennisetum glaucum</i> (L.) R. Br.                                 |
|                               | Ragi (Finger millet)                                                                           | Kēḷvaraku         | <i>Eleusine coracana</i> (L.) Gaertn.                                 |
|                               | Sorghum                                                                                        | Cōḷam             | <i>Sorghum vulgare</i> Pers.                                          |
|                               | Foxtail millet                                                                                 | Tiṇai             | <i>Setaria italica</i> (L.) P. Beauv.                                 |
|                               | Kodo millet                                                                                    | Varaku            | <i>Paspalum scrobiculatum</i> L.                                      |
|                               | Proso millet                                                                                   | Paṇivaraku        | <i>Panicum miliaceum</i> L.                                           |
|                               | Gluten-containing grains (Wheat, Barley, Rye, Oats)                                            |                   |                                                                       |
| Fruits                        | Citrus fruits – Orange, Lemon                                                                  |                   |                                                                       |
| Non-Vegetarian / Animal Foods | Chicken Kadaknath / Kalimasi                                                                   | Kōḷi<br>Karuṅkōḷi | <i>Gallus gallus domesticus</i><br><i>Gallus gallus f. domesticus</i> |
|                               | Sea foods                                                                                      | Kāṭal uṇavukaḷ    |                                                                       |
|                               | Raw eggs                                                                                       |                   |                                                                       |
| Taste & Seasonings            | Excess salt and sour-tasting foods<br>Seasonings like chilli powder, cinnamon, cloves, vinegar |                   |                                                                       |
| Oils & Fats                   | Sesame oil                                                                                     | Eḷ eṇṇey          | <i>Sesamum indicum</i> L.                                             |
| Processed & Fermented Foods   | Fermented foods                                                                                |                   |                                                                       |
|                               | Processed foods, junk foods                                                                    |                   |                                                                       |
| Substances & Addictions       | Alcohol                                                                                        |                   |                                                                       |
|                               | Tobacco                                                                                        |                   |                                                                       |

## Yoga<sup>38</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) Curative Interventions

A. **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, total IgE, En Vakait Tērvu may be done.

**Management:** The first line of treatment focuses on rectifying the deranged Vali through Enṇey muḷukku (Therapeutic Oil bath) and Kaḷiccal maruttuvam (Therapeutic purgation). The other vitiated humours can also be managed using the same treatment methods by selecting suitable drugs and following the appropriate internal medicines.

#### Day 1

##### Enṇey muḷukku (Therapeutic Oil Bath)<sup>6</sup>:

- Arakku thylam
- Seeraga thylam
- Santhanathi thylam
- Chukku thylam

#### Day 2

##### Kaḷiccal maruttuvam (Therapeutic Purgation):

- Agathiyar kuzhambu - 100 - 130 mg with ginger juice (*Zingiber officinale*) at early morning in empty stomach.
- Meganatha kuligai - 1-2 pills with Lukewarm water at early morning in empty stomach<sup>6</sup>  
(Any one medicine may be used)

The procedure for Enṇey muḷukku and Kaḷiccal maruttuvam is mentioned in the annexure II and III respectively

### Day 3 Rest

### Day 4 Internal and External Medicines

**Table 11: Single herbal preparations**

| Sr. No.                     | Drugs                                                                                                                                | Dosage form (in Siddha) | Dose      | Time   | Duration and Frequency                     | Adjuvants/ Anupaanam |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------|--------|--------------------------------------------|----------------------|
| <b>Kudineer (Decoction)</b> |                                                                                                                                      |                         |           |        |                                            |                      |
| 1.                          | <i>Puvarasu</i> (Bark of <i>Thespesia populnea</i> (L.) Sol.ex.correa) <sup>39</sup>                                                 | Decoction               | 60 ml     | OD BF  | Depending Upon the Severity of the disease | Lukewarm water       |
| 2.                          | <i>Arugam pul</i> (Leaves of <i>Cynodon dactylon</i> (L.) Pers.) -10g and <i>Milagu</i> ( <i>Piper nigrum</i> L.) -1 g <sup>12</sup> | Decoction               | 30- 60 ml | OD, BF | -do-                                       | Warm water           |

**Table 12: Compound Formulations**

| Sr. No.                             | Drugs                                       | Dosage form (in Siddha) | Dose  | Time   | Duration and Frequency                     | Adjuvants/ Anupaanam |
|-------------------------------------|---------------------------------------------|-------------------------|-------|--------|--------------------------------------------|----------------------|
| <b>Chooranam (Medicinal Powder)</b> |                                             |                         |       |        |                                            |                      |
| 1                                   | <i>Elathy Chooranam</i> <sup>6</sup>        | Powder                  | 2-3 g | BD, AF | Depending Upon the Severity of the disease | Lukewarm water       |
| 2                                   | <i>Parangipattai Chooranam</i> <sup>6</sup> | Powder                  | 2-3 g | BD, AF | Depending Upon the Severity of the disease | Milk/ lukewarm water |
| 3                                   | <i>Seenthil Chooranam</i> <sup>6</sup>      | Powder                  | 1-2 g | BD, AF | Depending Upon the Severity of the disease | Palm jaggery         |
| <b>Thylam (Medicinal oil)</b>       |                                             |                         |       |        |                                            |                      |
| 4                                   | <i>Arugan thylam</i> <sup>6,12</sup>        | Oil                     | Q. S  | BD     | External use                               | -                    |
| 5                                   | <i>Kunthirika thylam</i> <sup>41</sup>      | Oil                     | Q. S  | BD     | External use                               | -                    |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the annexure - V.

**B. External Therapies as per applicability**

**C. Recommended Diet and Lifestyle<sup>6,35,36,38</sup>**

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

- **Diet:** whole grains, fruits, vegetables, nuts, seeds, and omega-3 sources can be opted.
- **Lifestyle:** Stress management practices like mindfulness, meditation, and breathing exercises (e.g., pranayamam - Nāṭi cutti) might help. Use of soothing oatmeal baths and proper moisturization to protect the skin barrier may be used as skin care support.

**Yoga:** Yoga poses- Amarnta kokkācaṇam (Forward bending pose), Mukkōṇācaṇam (Triangle), Pāmpācaṇam (Cobra), Niṇra kokkācaṇam (Forward Bend), Viparīta karṇi (Legs Up the Wall), Pavaṇamuttācaṇam (Wind-Relieving), Carvāṅkācaṇam (Shoulder Stand) and Kalappaiyācaṇam (Plough Pose)

**Restricted Diet & Lifestyle<sup>35, 36</sup>**

- Foods such as alcohol, food additives, seafood, certain vegetables and fruits, fermented, and high-histamine food items 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>40</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.

**D. 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.

**Table 13:**

| Sr. No.                             | Drugs                                        | Dosage form (in Siddha) | Dose        | Time   | Duration and Frequency                     | Adjuvants / Anupaanam |
|-------------------------------------|----------------------------------------------|-------------------------|-------------|--------|--------------------------------------------|-----------------------|
| <b>Chooranam (Medicinal Powder)</b> |                                              |                         |             |        |                                            |                       |
| 1.                                  | <i>Sivanarvembu Chooranam</i> <sup>6</sup>   | Powder                  | 500 mg -1 g | AF     | Depending upon the severity of the disease | Milk                  |
| <b>Rasayanam (Dry Confection)</b>   |                                              |                         |             |        |                                            |                       |
| 2.                                  | <i>Gandhaga Rasayanam</i> <sup>42</sup>      | Dry Confection          | 1-3 g       | BD, AF | -do-                                       | Warm milk             |
| 3.                                  | <i>Parangipattai Rasayanam</i> <sup>43</sup> | Dry Confection          | 3-6 g       | BD, AF | -do-                                       | Warm milk             |
| <b>Maathirai (Pills/Tablet)</b>     |                                              |                         |             |        |                                            |                       |
| 4.                                  | <i>Gandhaga Maathirai</i> <sup>44</sup>      | Pills/Tablet            | 1-2 tabs    | BD, AF | -do-                                       | Warm milk             |
| <b>Nei (Medicated Ghee)</b>         |                                              |                         |             |        |                                            |                       |
| 5.                                  | <i>Vallarai Nei</i> <sup>43</sup>            | Ghee                    | 5-10 ml     | BD, AF | -do-                                       | Lukewarm water        |
| <b>Parpam (White Calx)</b>          |                                              |                         |             |        |                                            |                       |
| 6.                                  | <i>Gandhaga Parpam</i> <sup>41</sup>         | White Calx              | 25-50 mg    | BD, AF | -do-                                       | Ghee/ Butter          |
| 7.                                  | <i>Palagarai Parpam</i> <sup>6</sup>         | White Calx              | 200-400 mg  | BD, AF | -do-                                       | Ghee/ Milk            |
| 8.                                  | <i>Sangu Parpam</i> <sup>41</sup>            | White Calx              | 200-400 mg  | BD, AF | -do-                                       | Ghee/ Milk            |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure - V

**External Therapies as per applicability**

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

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

**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.

**B. 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 dietitians, counselling, and physiotherapy unit.

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

**Investigations:**

- Screening for neutrophil rich infiltrates in skin biopsy, performing gene mutation analysis for hereditary periodic fever syndromes.
- Autologous Serum Skin Test (ASST).
- 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.

**Table 14: Internal Medicines**

| Sr. No                                      | Drugs                                         | Dose form             | Dose                | Time              | Duration and Frequency*                    | Adjuvants/<br>Anupaanam      |
|---------------------------------------------|-----------------------------------------------|-----------------------|---------------------|-------------------|--------------------------------------------|------------------------------|
| <b>Chooranam (Medicinal Powder)</b>         |                                               |                       |                     |                   |                                            |                              |
| 1.                                          | <i>Vidathari Chooranam</i> <sup>12</sup>      | Powder                | 2-3 g               | BD, AF            | Depending upon the severity of the disease | Lukewarm water               |
| <b>Nei (Medicated Ghee)</b>                 |                                               |                       |                     |                   |                                            |                              |
| 2.                                          | <i>Senkottai Nei</i> <sup>6</sup>             | Ghee                  | 10-15 drops         | BD, AF            | -do-                                       | Warm milk                    |
| <b>Ilagam (Electuary)</b>                   |                                               |                       |                     |                   |                                            |                              |
| 3.                                          | <i>Mahavallathy Ilagam</i> <sup>43</sup>      | Electuary             | 3-5 g               | BD, AF            | -do-                                       | Warm milk                    |
| 4.                                          | <i>Sarapunga vilwathi Ilagam</i> <sup>6</sup> | Electuary             | 6-12 g              | BD, AF            | 45 Days                                    | Warm milk                    |
| <b>Mezhugu (Semi-solid confection)</b>      |                                               |                       |                     |                   |                                            |                              |
| 5.                                          | <i>Gandaka Mezhugu</i> <sup>41</sup>          | Semi-solid confection | 100-200 mg          | BD, AF            | Depending upon the severity of the disease | Milk                         |
| 6.                                          | <i>Nandhi Mezhugu</i> <sup>41</sup>           | Semi-solid confection | 130-250 mg          | BD, AF            | 12/25/45 days                              | Palm jaggery                 |
| 7.                                          | <i>Rasa Mezhugu</i> <sup>41</sup>             | Semi-solid confection | 100-200 mg          | BD, AF            | Depending upon the severity of the disease | Palm jaggery                 |
| 5.                                          | <i>Rasagandhi Mezhugu</i> <sup>41</sup>       | Semi-solid confection | 250 -500 mg         | BD, AF            | -do-                                       | Palm jaggery                 |
| <b>Kuzhambu (Medicated viscous mixture)</b> |                                               |                       |                     |                   |                                            |                              |
| 9.                                          | <i>Visha Kuzhambu</i> <sup>41</sup>           | viscous mixture       | 100-200 mg          | OD, early morning | Depending upon the severity of the disease | Water                        |
| <b>Parpam (White Calx)</b>                  |                                               |                       |                     |                   |                                            |                              |
| 10.                                         | <i>Thalaga Parpam</i> <sup>6</sup>            | White Calx            | 25-50 mg            | BD, AF            | 12 days                                    | Palm Jaggery/<br>Ghee/ Honey |
| <b>Thylam (Medicated oil)</b>               |                                               |                       |                     |                   |                                            |                              |
| 11.                                         | <i>Sivappu kukkil Thylam</i> <sup>12</sup>    | oil                   | Quantity sufficient | BD                | External use                               | External use                 |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.
- Age-specific dosage recommendations are included in the Annexure – V

**Other procedures (External Therapies as per applicability):** Same as Level 1

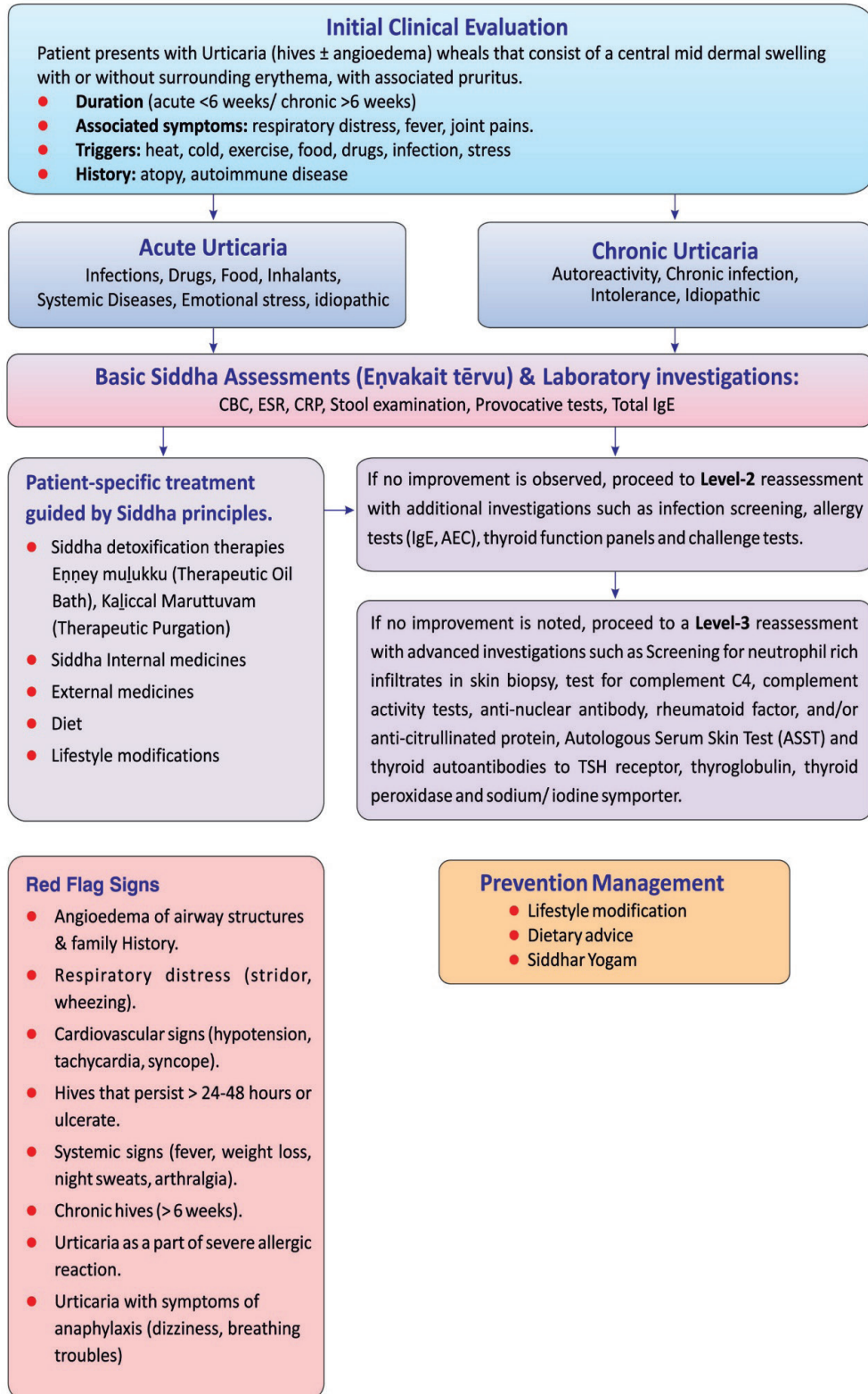
**Recommended Diet & Lifestyle:** Same as Level 1

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

**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 Kāṇākkaṭi (Urticaria)



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# VITILIGO

## (Veņpaṭai)



# VITILIGO

## Veṇṇpaṭai

ICD 11<sup>1</sup>:ED:63.0

ICD 11 TM2:SN4D<sup>2</sup>

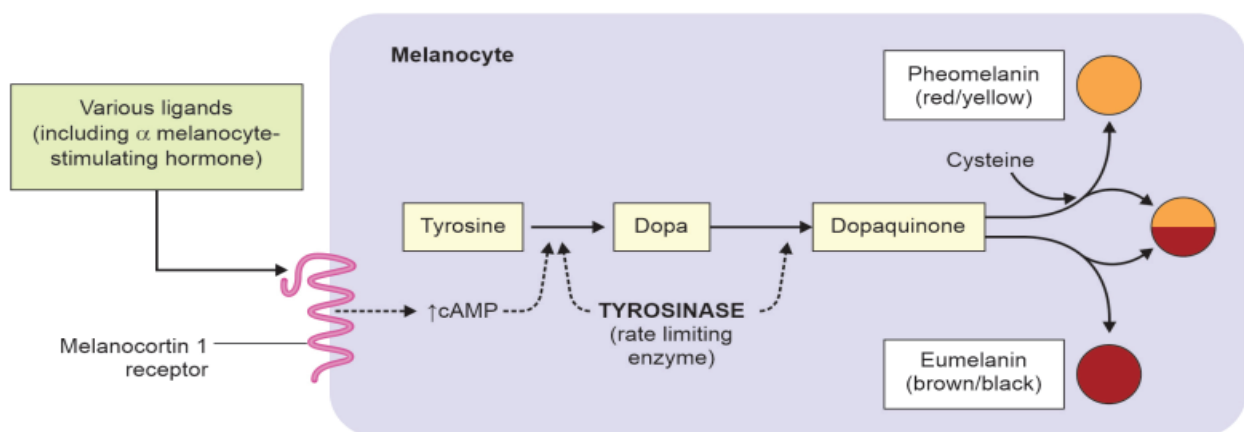
NSMC:BTA1.1,BTB1.2,BTC1.1<sup>3</sup>

### CASE DEFINITION:<sup>4,5,6,7</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.

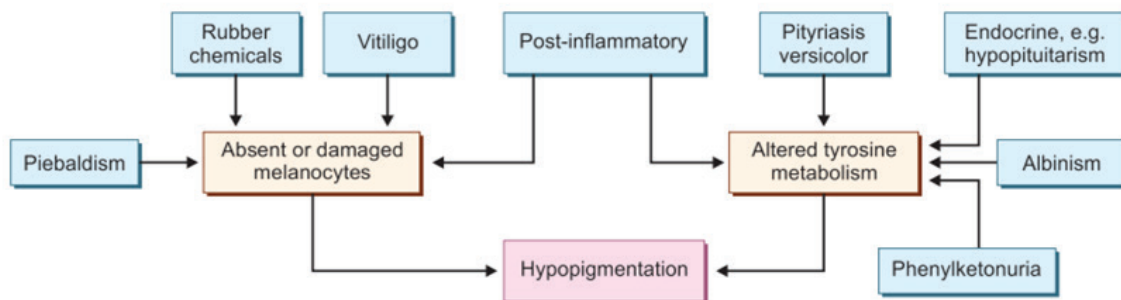
Vitiligo may be co-related with Veṇṇpaṭai in siddha system of medicine. Veṇṇpaṭai is a dermatological disorder characterized by hypopigmented whitish macules in various sizes with distortion and sometimes hair loss in the affected area.<sup>8</sup>

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>9,10,11,12</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 non-segmental vitiligo (NSV) and segmental (SV), with NSV being the most common form.
- Vitiligo significantly impacts patients' psychological and social well-being.

### Etiology:<sup>8</sup>

- Idiopathic or unknown aetiology
- Irritation of skin by clothes, rubber or leather materials
- Hormonal imbalance (Tūmparṛa curappi nīr vikaṛpam)
- Nutritional deficiency
- Lack of pigment or defect in Melanin synthesis
- Emotional stress and strain
- Hereditary
- Secondary to Syphilis or other sexually transmitted diseases
- Hyper sexual indulgence (Kāmiyattāl piṛappatu)
- Weakened immune system
- Influencing factors such as sun burn, chemical irritants, emotional stress, etc

**Updates in pathogenesis and its relevance** 8,12,13,14

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

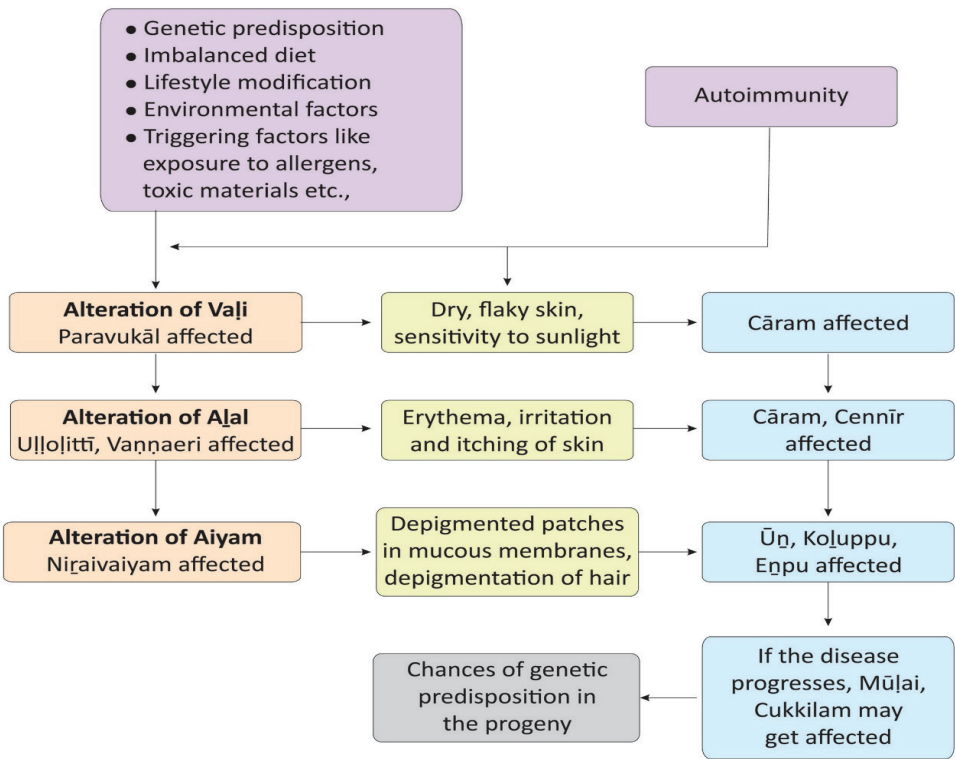
1. Genetic predisposition
  2. Autoimmune destruction of melanocytes.
  3. Neural pathways (explains the stress and segmental type)
  4. Metabolic abnormalities & oxidative stress - Accumulation of toxic metabolites and oxidants that damage melanocytes.
  5. Self-destruction of melanocytes (autocytodestructive)

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 melanocyte specific 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.

The deranged Vaḷi and Aḷal humour is the predominant cause for the occurrence of Veṇṇapaṭai. The imbalanced Vaḷi and Aḷal Uyirtātu affects the Uṭaltātu - Cāram, Cennīr and Ūṇ gradually; the deranged Viyāṇaṇ (Paravukāl), Irañcaka pittam and Pirācaka pittam will be expressed as the development of white patches (Veṇṇapaṭai).

**Veṇṇapaṭai – Siddha Pathophysiology**



CLINICAL PRESENTATION<sup>12,15,16</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 Symptoms (Siddha)<sup>8</sup>:

In this condition the skin in the affected area may be normal or sometimes thickened. The lesions may appear hypopigmented macules in whole body or face, skin, lips, palms, and anal region sometimes with hypopigmented hair and hair loss and burning sensation also; In this condition the skin in the affected area may be normal or sometimes thickened lesions may appear with altered black and white colour.

Prognosis (Siddha)<sup>8</sup>:

If the lesions tend to appear in whole body, lips, palms, genital regions, hypopigmentation in hair and with the lesions that appear to be a burn scar it may lead to a poor prognosis.

Taṭippāka tavaḷama niṛam pōl veḷuttuc  
carvāṅkamum veḷuttār raṛāṇṇi rumpum  
Maṭippāka mayir veḷuttā lacāttiya māḱum  
Virivutaṭuvuḷḷaṅkaik kutaṅkuyya yantāṇ  
Neṭippaka neruppup paṭṭatu pōṛ puṇṇāy  
Niṛamiruntā lacātiyamēṇ ruraikka lākum  
Veṭippāka mēṇiyellām veḷuttu vīṅkil  
Veṇcuvēta kuṭṭamenṇra viḷampa lāmē (Yūki Cintāmaṇi)

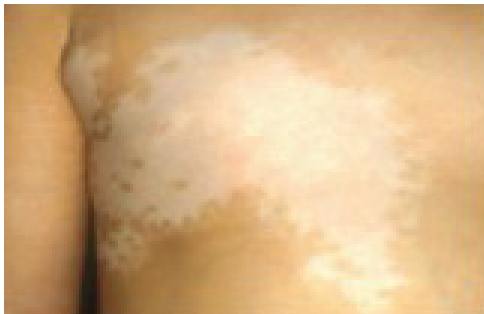
Clinical Subtypes of Vitiligo:

Table 1: Expanded Classification<sup>15</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. | - Focal <sup>1</sup><br>- Mucosal<br>- Acrofacial<br>- Generalized<br>- Universal<br>- Rare variants (e.g., leukoderma punctata, hypochromic vitiligo, follicular vitiligo) |

| Type of Vitiligo                                                                                                                                                                                                                                                                   | Subtypes                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 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> |

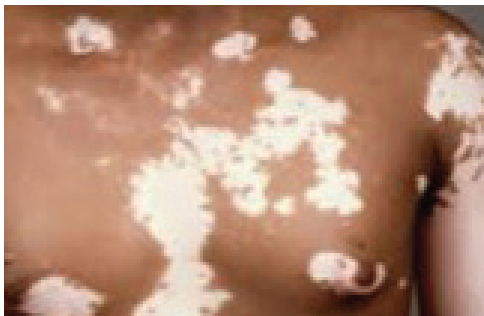
<sup>1</sup>Focal vitiligo may appear in both NSV and SV and is classified based on disease progression.



**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.

## Classification/types<sup>(8,17)</sup>

### Vāta Veṇṇpaṭai:

It is characterized by roughened, unevenly de-pigmented skin with reddish black in colour. It is explained by increased Vaḷi.

### Pitta Veṇṇpaṭai:

It is characterized by lotus colour reddish white skin lesion appears like the petals of Tāmarai malar (*Nelumbo nucifera* flower), burning sensation, loss of hair:

### Kapa Veṇṇpaṭai:

It is characterized by depigmented skin lesion appearing as white as Tumpai (*Leucas aspera*) flower with defined margins which spreads over the body with pruritus. It is explained by increased aiyam.

### Mēka Veṇṇpaṭai:

It is characterized by depigmented skin lesions in the patients affected with Kōṟukku nōy for the period of 4 to 6 months and the lesions tend to develop during the convalescence period border of the lesion may be light yellow or thick yellow in colour. It is more common in women than men.

## CLINICAL EXAMINATION<sup>12,18,19</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 periocular 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 colour, well-demarcated with any shape
- Ranges in size from a few millimetres to a few centimetres.

- Signs of other associated diseases may also be present like goiter, anaemia, 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>9,20,21,22,23</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 disorder 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:

**Table 2:**

| 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>• 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. Congenital and hence easily differentiated as vitiligo</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> |
|                                      |                             | <ul style="list-style-type: none"> <li>• Waardenburg Syndrome</li> <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>                                                                                                                                                                   |

| Category                                  | Condition                              | Differential Features                                                                                                                                          |
|-------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | 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 Hypo melanoses</b>          | Leprosy (Toḷunōy) <sup>8</sup>         | <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>                                                         |
|                                           | Onchocerciasis                         | <ul style="list-style-type: none"> <li>“Leopard skin” depigmentation in endemic African areas.</li> </ul>                                                      |

| Category                         | Condition                          | Differential Features                                                                                                                                                                                                               |
|----------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | Treponematoses (pinta, syphilis)   | <ul style="list-style-type: none"> <li>Rare; hypopigmentation in later stages of infection.</li> </ul>                                                                                                                              |
| <b>Idiopathic Hypo melanoses</b> | Idiopathic guttate hypo melanosis  | <ul style="list-style-type: none"> <li>Multiple, small, round white macules on shins/forearms in elderly; melanocytes preserved.</li> </ul>                                                                                         |
|                                  | Progressive macular hypo melanosis | <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 Hypo melanoses</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>24,25,26,27,28,29</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, 27, 28, 29, 30, 31, 32</sup>

| Test                                      | Comment                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Detailed history and Physical examination |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Complete Haemogram                        | 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.                                                                                                                                                                                                                                        |
| LFT and KFT                               | 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. |

| Test                                                                   | Comment                                                                                                                                                                                                                             |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Advanced investigations</b>                                         |                                                                                                                                                                                                                                     |
| Wood's Lamp Examination (At level 3)                                   | 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.                                          |
| Thyroid panel: TSH, free T3, free T4, Anti-thyroid peroxidase antibody | 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. |
| Antinuclear antibody (ANA)                                             | ANAs are crucial for the identification of systemic autoimmune rheumatic disorders (SARDs) or any organ-specific autoimmune diseases.                                                                                               |

## DIAGNOSTIC CRITERIA<sup>37</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.

- A. 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.

### Envagai Thervu (Eight types of diagnosis)

- Nāṭi – Vaḷi Aḷal/Aḷal Vaḷi Nāṭi
- Sparicam – Coldness / roughness
- Nā – Pallor / white Coated
- Niṛam – Hypopigmented / de-pigmented skin
- Moḷi – low pitched / Normal
- Viḷi – Pallor/ Normal
- Malam - Normal / constipation
- Mūttiram –
  1. Nīrkkurī (Physical examination of urine) - Yellowish in colour, tamarind odour
  2. Neykurī (Oil on urine sign) -: Oil may spread in the form of ring/pearl.

**Note:** Depending upon the severity of the disease, chronicity, age, sex, season, the interpretation of above all eight envagai thervu may tend to change.

**Manikadai nūl**<sup>38</sup> (if applicable): 8 ½ Inches.

### 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>39</sup>

|                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Essential criteria (major)                                                                                                                                                                               |
| <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> |
| Additional criteria (minor)                                                                                                                                                                              |
| <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>                                                                                                    |
| <p><b>Note:</b> Patients fulfilling all essential and one or more of the additional criteria are classified as segmental vitiligo and remaining patients as nonsegmental vitiligo.</p>                   |

## PRINCIPLES OF MANAGEMENT <sup>7,13</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 advice to continue the same along with add-on Siddha medicine and can be assessed for the same in the follow ups for tapering or discontinue the treatment in consultation with the conventional physician.

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. 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 Disorders, Diabetes Mellitus, etc.

### A) Prevention Management

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

**Primary Prevention:** Primary prevention aims to reduce the risk of disease before it begins by targeting modifiable risk factors in individuals who are still healthy or before the disease condition develops.

**Secondary Prevention:** Secondary Prevention aims to treat disease at an early stage to prevent further complications of the disease.

**Tertiary prevention:** Tertiary Prevention is directed towards managing established vitiligo, enhancing repigmentation through individualized therapy, addressing psychosocial concerns with counseling, improving cosmetic appearance, and monitoring for associated autoimmune conditions.

**Table 3: Diet**

| English Name       | Tamil Name  | Botanical Name                     |
|--------------------|-------------|------------------------------------|
| Sprouted Moong dal | Pācippayaṛu | <i>Vigna radiata (L.)R.Wilczek</i> |
| Fenugreek          | Ventayam    | <i>Trigonella foenum-graecum L</i> |

| English Name        | Tamil Name     | Botanical Name                     |
|---------------------|----------------|------------------------------------|
| Bengal gram         | Koṇṭa kaṭalai  | <i>Cicer arietinum</i> L.          |
| Fig                 | Attipaḷam      | <i>Ficus racemosa</i> L.           |
| Pomegranate         | Mātuḷam paḷam  | <i>Punica granatum</i> L.          |
| Jamun Fruit         | Nāval paḷam    | <i>Syzygium cumini</i> (L.) Skeels |
| Dry Grapes          | Tirāṭcai       | <i>Vitis vinifera</i> L.           |
| Meat Soup Lamb/Goat | Veḷḷāṭṭu racam | <i>Capra aegagrus</i>              |

**External Therapy:** Kānti cūṭṭikai – Exposure to sunlight for 30 minutes

**Yoga:** 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:

- Pirāṇāyāmam (breathing exercises)
- Cūriyanamaskaram (sun salutation)
- Shavasana, Yoga Nidra for relaxation
- Meditation to reduce anxiety and autoimmune activation  
(Proper guidance from a yoga expert is essential before practicing yoga for skin disorders)

**Lifestyle:** 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 counseling
- Adequate sun protection to prevent photodamage of depigmented skin
- Maintenance of sleep hygiene and regular circadian rhythms

**Siddha Lifestyle practices:** Siddhars have recommended certain basic lifestyle guidelines to be followed for healthy living and they include observation of certain regimen as mentioned in preventive measures Piṇiyaṇukāviti that help to prevent diseases (Ref Annexure I). The concept of rejuvenating procedures for prevention of diseases is highly admirable as it increases our immunity. The concepts pertaining to habitat, seasons, diet etc. are easily adaptable preventive measures for a disease-free life.

**Table 4: Karpam Medicines**

| Sr. No.                            | Drugs                                                           | Dosage form (in Siddha) | Dose | Time | Frequency and Duration | Adjuvants/ Anupanam |
|------------------------------------|-----------------------------------------------------------------|-------------------------|------|------|------------------------|---------------------|
| <b>Karpam (Rejuvenating Drugs)</b> |                                                                 |                         |      |      |                        |                     |
| 1.                                 | Kittikizhangu karpam <sup>8</sup> ( <i>Acalypha fruticosa</i> ) | Powder                  | 2 g  | BD   | 48 days                | Honey / Hot water   |

| Sr. No. | Drugs                                     | Dosage form (in Siddha) | Dose   | Time | Frequency and Duration | Adjuvants/<br><i>Anupanam</i> |
|---------|-------------------------------------------|-------------------------|--------|------|------------------------|-------------------------------|
| 2.      | <i>Karisaalai Karpam</i> <sup>40</sup>    | Powder                  | 5g     | BD   | 48 days                | Honey                         |
| 3.      | <i>Sivakaranthai karpam</i> <sup>40</sup> | Powder                  | 2g     | BD   | 4 months               | Milk/Ghee/Honey               |
| 4.      | <i>Ayabrinkaraja karpam</i> <sup>41</sup> | Powder                  | 500 mg | BD   | 48 days                | Honey                         |
| 5.      | <i>Ayasambeera karpam</i> <sup>41</sup>   | Powder                  | 500 mg | BD   | 48 days                | Honey                         |

## 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 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

The first line of treatment is to reduce the vitiated *uyir thathu* – *Vali* and *Azhal* in *Veṇṇapaṭai*. Detoxification methods, namely therapeutic purgation and therapeutic emesis are advised to reduce the vitiated humour followed by internal medicines, External medicine, diet, and lifestyle.

### a. Eṇṇey muḷukku (Therapeutic Oil Bath)

**Anyone of the oil may be used.**

- *Arakku Thylam*<sup>42</sup> (Quantity Sufficient)
- *Karuncheeraka Thylam*<sup>43</sup> (Quantity Sufficient)
- *Keezhanelli Thylam*<sup>44</sup>

### b. Kaḷiccal maruttuvam (Therapeutic purgation)

**Anyone of the formulation may be used.**

- *Karudankizhangu thylam*<sup>8</sup> 12-24 ml
- *Rasa thylam*<sup>8</sup>– 10 ml

### c. Vamaṇa maruttuvam (Therapeutic emesis)

- *Marukarai kudineer*<sup>45</sup> - 15-30 ml, OD in the early morning on an empty stomach.

**Note:** Guidelines and Restrictions to be followed during Eṇṇey muḷukku, Kaḷiccal maruttuvam, Vamaṇa Maruthuvam is given in the Annexure II, III, IV respectively

#### d. Single drugs: (Table 5)

| Sr. No.                             | Drugs                                   | Dosage form (in Siddha) | Dose  | Time                  | Frequency and Duration | Adjuvants / Anupanam |
|-------------------------------------|-----------------------------------------|-------------------------|-------|-----------------------|------------------------|----------------------|
| <b>Chooranam/ Medicinal Powders</b> |                                         |                         |       |                       |                        |                      |
| 1.                                  | <i>Karboga Arisi</i> <sup>46</sup>      | Powders                 | 1-2 g | BD AF                 | 90 days                | Honey                |
| 2.                                  | <i>Kattu Seeragam</i> <sup>46</sup>     | Powders                 | 1-3 g | BD AF                 | 90 days                | Honey                |
| 3.                                  | <i>Nilapanai Kizhangu</i> <sup>47</sup> | Powders                 | 3-6 g | Morning empty stomach | 90 days                | Milk                 |
| 4.                                  | <i>Karisalai karpam</i> <sup>40</sup>   | Powders                 | 1-2 g | BD AF                 | 90 days                | Honey                |
| 5.                                  | <i>Sivanarvembu</i> <sup>45</sup>       | Powders                 | 1-2 g | BD AF                 | 90 days                | Milk                 |

#### e. Compound Formulations:

| Sr. No.                             | Drugs                                                                           | Dosage form (in Siddha) | Dose      | Time         | Frequency and Duration | Adjuvants / Anupanam |
|-------------------------------------|---------------------------------------------------------------------------------|-------------------------|-----------|--------------|------------------------|----------------------|
| <b>Chooranam/ Medicinal Powders</b> |                                                                                 |                         |           |              |                        |                      |
| 1.                                  | <i>Vidathalai ver Chooranam</i> <sup>40</sup>                                   | Powders                 | 1g        | BD           | 40 days                |                      |
| 2.                                  | <i>Kattu seeragam+ Milagu/ ellu podi</i> (Equal quantity of both) <sup>45</sup> | Powders                 | 4g        | Morning only | 3 months, once daily   | Hot water            |
| 3.                                  | <i>Parangipattai</i> <sup>42</sup>                                              | Powders                 | 1-2 g     | BD AF        | 90 days                | Milk                 |
| <b>Kadugu/ Filtrates</b>            |                                                                                 |                         |           |              |                        |                      |
| 4.                                  | <i>Nunavilai kadugu</i> <sup>45</sup>                                           | Filtrates               | 100 mg    | BD           | 48 days                | NA                   |
| <b>Chendooram/Red calx</b>          |                                                                                 |                         |           |              |                        |                      |
| 5.                                  | <i>Annabedhi Chendhooram</i> <sup>41</sup>                                      | Red Calx                | 100-200mg | BD           | 48 days                | Honey                |

#### External Medications (Table 6)

##### Other procedures (External therapies/Medicines)

##### Patru (Poultice)

- *Karbogi Pattru*<sup>8</sup> (*Cullen corylifolium* (L.) *karbogi* seeds ground with lemon juice (*Citrus limon* (L.) Osbeck)
- *Mayil thuttam*<sup>8</sup> (Copper Sulphate) ground with the juice of *kumattikkai* (*Citrullus colocynthis* (L.) Schrad).

##### Poochu<sup>8</sup> (Liniment/Semi-solid Application):

- *Thuvaraiver kuzhi thylam*

- Sivanarvembu kuzhi thylam
- Nunathylam,
- Pungan thylam,
- Karappan thylam
- Poovarasam (*Thespesia populnea* (L.) Sol. ex Corrêa) bark juice<sup>8</sup>

#### **Kalimbu<sup>8</sup> (Ointment):**

- Karboghi pacai
- Karboghi nei
- Senkontraï paste

#### **Eṇṇey muḷukku (Therapeutic Oil bath):**

- Karunseeraga thylam
- Keezhanelli thylam
- Maruthampattai thylam
- Nellikaaï thylam
- Vettiver thylam<sup>43</sup>.

#### **Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.

### **3. Recommended Diet & Lifestyle (Table 7)**

| Sr. No.    | English Name                                                        | Tamil Name   | Botanical Name                                  |
|------------|---------------------------------------------------------------------|--------------|-------------------------------------------------|
| <b>3.1</b> | <b>Tender Vegetables</b>                                            |              |                                                 |
| 3.1.1      | Fig fruit                                                           | Attippaḷam   | <i>Ficus racemose</i> L                         |
| 3.1.2      | Ladies finger                                                       | Veṇṭaikkāy   | <i>Abelmoschus esculentus</i> (L.) Moench       |
| 3.1.3      | Drumstick                                                           | Muruṅkaikkāy | <i>Moringa oleifera</i> Lam                     |
| 3.1.4      | Broad beans                                                         | Avarai piṇcu | <i>Lablab purpureus</i> subsp. <i>Purpureus</i> |
| 3.1.5      | Unripe Papaya                                                       | Pappāḷi      | <i>Carica papaya</i> .L                         |
| 3.1.6      | Beetroot                                                            | Piṭṭrūṭ      | <i>Beta vulgaris</i> L                          |
| 3.1.7      | Coriander                                                           | Kottamalli   | <i>Coriandrum sativum</i> .L                    |
|            | Any of the vegetables can be prepared as curry, kootu, poriyal etc. |              |                                                 |
| <b>3.2</b> | <b>Green leafy vegetables</b>                                       |              |                                                 |
| 3.2.1      | Curry leaves                                                        | Karivēppilai | <i>Bergera koenigii</i> L                       |

| Sr. No.    | English Name                                                                                            | Tamil Name    | Botanical Name                        |
|------------|---------------------------------------------------------------------------------------------------------|---------------|---------------------------------------|
| 3.2.2      | Black night shade                                                                                       | Maṇattakaḷi   | <i>Solanum nigrum</i> .L              |
| 3.2.3      | Dwarf copper leaf spinach                                                                               | Poṇṇāṅkaṇi    | <i>Alternanthera sessilis</i> (L.) DC |
| 3.2.4      | False daisy                                                                                             | Karicālai     | <i>Eclipta prostrata</i> (L).L        |
| 3.2.5      | Creeping woodsorrel                                                                                     | Puḷiyārai     | <i>Oxalis corniculata</i> .L          |
| 3.2.6      | Amaranthus green                                                                                        | Kīraittaṇṭu   | <i>Amaranthustricolour</i> .L         |
| 3.2.7      | Purslane seeds                                                                                          | Paruppukkīrai | <i>Portulaca oleracea</i> .L          |
|            | Soup, sauce and curry-like preparations can be made from these vegetables for consumption               |               |                                       |
| <b>3.3</b> | <b>Pulses</b>                                                                                           |               |                                       |
| 3.3.1      | Black Gram                                                                                              | Uḷuntu        | <i>Vigna mungo</i> (L.) Hepper        |
| 3.3.2      | Rice                                                                                                    | Arici         | <i>Oryza sativa</i> L.                |
| 3.3.3      | Green gram                                                                                              | Pāci payaṛu   | <i>Vigna radiata</i> (L.) R.Wilczek   |
|            | Pulses can be used to make Idly, dosai, porridge, and curry                                             |               |                                       |
| <b>3.4</b> | <b>Fruits</b>                                                                                           |               |                                       |
| 3.4.1      | Fig                                                                                                     | Atti          | <i>Ficus racemose</i> .L              |
| 3.4.2      | Indian gooseberry                                                                                       | Nelli         | <i>Phyllanthus acidus</i> .L          |
| 3.4.3      | Lemon                                                                                                   | Elumiccai     | <i>Citrus limon</i> (L.) Osbeck       |
| 3.4.4      | Pomegranate                                                                                             | Mātuḷai       | <i>Punica granatum</i> .L             |
| 3.4.5      | Guava                                                                                                   | Koyyā         | <i>Psidium guava</i> .L               |
|            | Fruits can be taken as salad, juice (without sugar), or cut fruit<br>Rice: Hard pounded unpolished rice |               |                                       |
| <b>3.5</b> | <b>Non-vegetarian</b>                                                                                   |               |                                       |
| 3.5.1      | Meat                                                                                                    | Vellāṭṭu kari | <i>Capra aegagrus</i>                 |
| 3.5.2      | Fish                                                                                                    | Mīṇ           | -                                     |
|            | Any one of the above can be prepared as Curry/Gravy                                                     |               |                                       |

### Exercise

- Physical exercise denotes moderate intensity aerobic exercise includes brisk walking, jogging, running, swimming, cycling, etc.
- Kaandhi Suttigai*

### Siddhar Yogam:

Pirāṇayāmam, Cūrya namaskāram.

### 4. Restricted Diet & Lifestyle during Medication: (Table 8)

Avoid Sour, Pungent and Salty taste.

| Sr. No. | English Name                                                                                            | Tamil Name  | Botanical Name                                  |
|---------|---------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------|
| 4       | <b>Restricted Diet &amp; Lifestyle during Medication</b>                                                |             |                                                 |
| 4.1.    | <b>Vegetables</b>                                                                                       |             |                                                 |
|         | Mustard seeds                                                                                           | Kaṭuku      | <i>Brassica nigra</i>                           |
|         | Ground-nut                                                                                              | Vērkaṭalai  | <i>Arachis hypogea</i>                          |
|         | Cowpea or Black-eyed Pea                                                                                | Kārāmaṇi    | <i>Vigna unguiculata</i> (L.) Walp              |
|         | Peas                                                                                                    | Paṭṭāṇi     | <i>Pisum sativum</i> . L                        |
|         | Field Beans                                                                                             | Moccai      | <i>Lablab purpureus</i> subsp. <i>Purpureus</i> |
|         | Bitter gourd                                                                                            | Pākal       | <i>Momordica charantia</i>                      |
|         | Brinjal                                                                                                 | Kattiri     | <i>Solanum melongena</i>                        |
|         | Sesban                                                                                                  | Akattikīrai | <i>Sesbania grandiflora</i> (L.) Poir.          |
| 4.2     | <b>Others</b>                                                                                           |             |                                                 |
|         | <ul style="list-style-type: none"> <li>Chicken, pickles, packaged foods, Alcoholic beverages</li> </ul> |             |                                                 |

**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. However, the symptoms presented by the patient is the sole indicative and guide for treating each patient. 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 along with following medicines. Complications of this disease is mental stress, sunburns, inflammation, iritis, risk of other autoimmune diseases, Skin cancer, hearing loss, etc., must be managed accordingly.

#### **Kalical maruttuvam (Therapeutic purgation): (Table 9)**

**(Any one of the following formulations may be advised for purgation)**

| Sr. No. | Drugs                            | Dose form                            | Dose       | Time                                  | Adjuvant/<br>Anupaanam                                 |
|---------|----------------------------------|--------------------------------------|------------|---------------------------------------|--------------------------------------------------------|
| 1.      | Agathiyar Kuzhumbu <sup>42</sup> | Kuzhumbu (Medicated viscous Mixture) | 100-200 mg | at early morning on an empty stomach. | Lemon ( <i>Citrus × limon</i> (L.) Osbeck              |
| 2.      | Meganatha kuligai <sup>42</sup>  | Kuligai (Pills/tablets)              | 1-2 pills  | at early morning on an empty stomach  | with ginger juice ( <i>Zingiber officinale</i> Roscoe) |

#### **b. Vamaṇa maruttuvam (Therapeutic emesis)**

- Marukarai kudineer<sup>45</sup> 15- 30 ml, OD, in the early morning on an empty stomach

#### **c. Eṇṇey muḷukku (Therapeutic Oil bath)**

- Arakku Thylam<sup>42</sup>
- Keezhanelli Thylam<sup>43</sup>

#### **d. Single /Compound drugs: (Table 10)**

| Sr. No.                                  | Drugs                            | Dosage form (in Siddha) | Dose  | Time | Duration and Frequency | Adjuvants / Anupaanam |
|------------------------------------------|----------------------------------|-------------------------|-------|------|------------------------|-----------------------|
| <b>Ilagam (Electuary)</b>                |                                  |                         |       |      |                        |                       |
| 1.                                       | Serangkottai Ilagam <sup>8</sup> | Electuary               | 2.1 g | BD   | 48 days, daily         | 5 ml of Milk          |
| <b>Rasayanam (Semi-Solid Confection)</b> |                                  |                         |       |      |                        |                       |
| 2.                                       | Gandhaga Rasayanam <sup>42</sup> | Semi-Solid Confection   | 3g    | BD   | 48 days, daily         |                       |

| Sr. No.                      | Drugs                                                                                           | Dosage form (in Siddha)       | Dose            | Time | Duration and Frequency | Adjuvants / Anupaanam                                |
|------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------|-----------------|------|------------------------|------------------------------------------------------|
| 3.                           | <i>Parangi Pattai Rasayanam</i> <sup>8</sup>                                                    | Semi-Solid Confection         | 5g              | BD   | 48 days, daily         |                                                      |
| <b>Pathangam (Sublimate)</b> |                                                                                                 |                               |                 |      |                        |                                                      |
| 4.                           | <i>Parangi Pattai Pathanngam</i> <sup>8</sup>                                                   | Drugs obtained by Sublimation | 100-200mg       | BD   | 48 days, daily         | 5 ml of honey                                        |
| <b>Chenduram (Red calx)</b>  |                                                                                                 |                               |                 |      |                        |                                                      |
| 5.                           | <i>Aya Chendooram</i> (Prepared in fruit juice of Naval( <i>Syzygium cumini</i> ) <sup>41</sup> | Red calx                      | 60-130 mg daily | BD   | 48 days, daily         | 5 ml of honey                                        |
| <b>Parpam ( White calx)</b>  |                                                                                                 |                               |                 |      |                        |                                                      |
| 6.                           | <i>Naga parpam</i> <sup>41</sup>                                                                | White Calx                    | 130 mg          | BD   | 48 days, daily         | Juice of <i>Velvelai</i> ( <i>Cleome gynandra</i> L) |

**Note:**

- As per the physician's discretion, one or more formulations may be prescribed.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease.
- The selection of medicines, their dosages, and duration of treatment may be modified based on the patient's condition and the severity of the disease by the treating physician.
- Administration of certain medicines shall be prescribed with a drug holiday as ascertained by the treating Siddha Physician.
- If any untoward incident such as an Adverse Drug Reaction (ADR) or Adverse Drug Event (ADE) occurs during the treatment period, it shall be reported to the Pharmacovigilance team, documented appropriately, and the patient shall be treated accordingly.

**Other procedures (External Therapies as per applicability)** Same as level 1

**Recommended Diet & 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

- No clinical improvement or worsening despite appropriate siddha 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 attached with teaching Institution, District Level/ Integrated/State Ayush Hospitals, Allopathic hospitals also having tertiary care facilities either standalone or integrative management facilities)

**Clinical Diagnosis:** Same as Level 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.

**Table 11:**

| Sr. No.                             | Drugs                                                   | Dose form         | Dose        | Time | Duration and Frequency | Adjuvants/ Anupaanam                          |
|-------------------------------------|---------------------------------------------------------|-------------------|-------------|------|------------------------|-----------------------------------------------|
| <b>Chooranam (Medicinal Powder)</b> |                                                         |                   |             |      |                        |                                               |
| 1.                                  | <i>Rasaseeni Chooranam</i> <sup>48</sup>                | Medicinal Powders | 10mg        | BD   | 48 days, Daily         | Palm Jaggery                                  |
| <b>Maathirai (Pills/Tablets)</b>    |                                                         |                   |             |      |                        |                                               |
| 2.                                  | <i>Kushta kaja kesari</i> <sup>8</sup>                  | Pills/Tablets     | 1-2 tablets | BD   | 48 days, Daily         | 5 ml of honey.                                |
| <b>Mezhugu (Medicated Wax)</b>      |                                                         |                   |             |      |                        |                                               |
| 3.                                  | <i>Rasagandhi Mezhugu</i> <sup>8</sup>                  | Medicated Wax     | 500mg-1g    | BD   | 48 days, Daily         | 5 g of palm Jaggery                           |
| 4.                                  | <i>Nandhi Mezhugu</i> <sup>8</sup>                      | Medicated Wax     | 100-500 mg  | BD   | 48 days, Daily         | 5 g of palm jaggery                           |
| <b>Chenduram (Red Calx)</b>         |                                                         |                   |             |      |                        |                                               |
| 5.                                  | <i>Thamira Chenduram with Thuvurai Ver Kuzhi thylam</i> | Red Calx          | 30-65 mg    | BD   | 48 days, Daily         | 5 ml of Ghee                                  |
| <b>Parpam (White Calx)</b>          |                                                         |                   |             |      |                        |                                               |
| 6.                                  | <i>Thanga Parpa Urundai</i> <sup>49</sup>               | White Calx        | 1-2         | BD   | 6 months, Daily        | Parpam and adjuvant are mixed in drug itself. |

**Age specific dosing:** Ref: Annexure V

**Other procedures (External Therapies as per applicability)** Same as Level 1

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

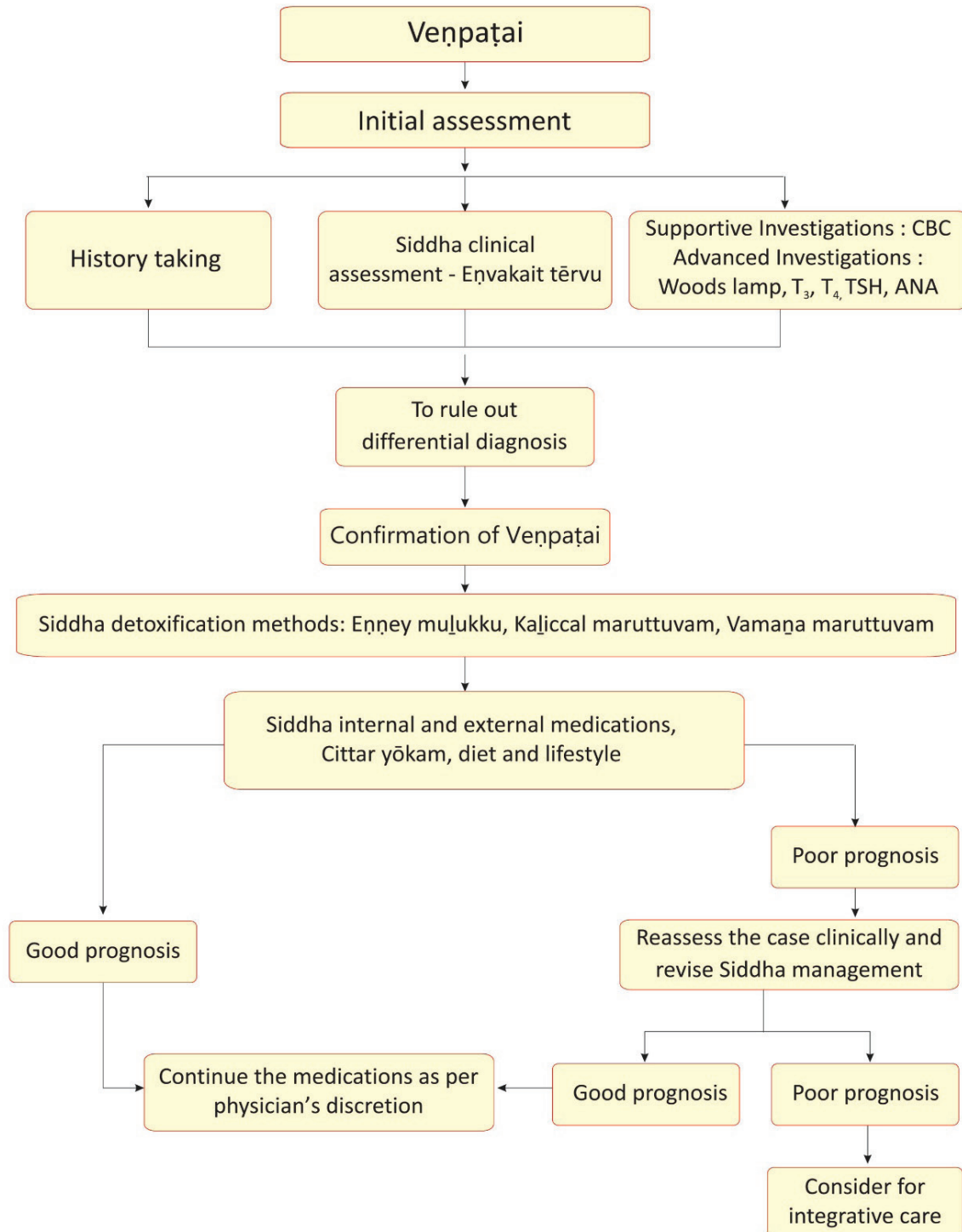
**Restricted Diet & Lifestyle:** Same as Level 1

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

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

- Non-response to treatment
- Fast Progression to all parts of the body
- Any other Auto-immune disease particularly auto-immune thyroid disease
- Evidence of an increase in severity/complications
- Co-morbidities, such as cardiac disease.
- Substantial impact on their quality of life and activities of daily living due to stress
- In selected cases, referral to higher centers may also be appropriate for psychological reassurance or cosmetic interventions.

## Algorithm of treatment process for Veṇṇapaṭai (Vitiligo)



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### Tēraṇ Piṇiyaṇukā Viti (Disease Prevention Regimens)<sup>1</sup>

Tēraṇ Piṇiyaṇukā Viti is a collection of preventive health regimens in Siddha system of medicine which emphasizes disease prevention through balanced lifestyle, dietary discipline, and hygienic practices.

#### Do's

- Drink cow's milk at night.
- Consume diluted buttermilk.
- Consume only melted ghee.
- Add cultured and fermented curd in one's diet.
- Consume plantains instead of banana.
- Have meals only when one feels hungry.
- Eat two meals in a day.
- Take post meal walk.
- Take oil bath twice a week with warm water.
- Have therapeutic purgation once every four months.
- Have therapeutic emesis once every six months.
- Apply therapeutic collyrium once in three days.
- Take therapeutic nasal instillation eight times in a year.
- Always sleep on left lateral position.

#### Don'ts

- Avoid tuberous and root vegetables other than Indian ordinary Yam (*Dioscorea spp.*).
- Never consume food that was prepared previous day.
- Do not hold the urge to defecate and urinate.
- Avoid sleep during daytime Do not smell fragrant flowers at night

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**Eṇṇey muḷukku (Therapeutic Oil Bath):<sup>1</sup>**

Eṇṇey muḷukku (Therapeutic Oil bath) is a preparatory procedure that involves massaging the body with medicated oil followed by a bath. It gives strength to five sense organs (Pañcēntiriyāṅkaḷ). Taking Eṇṇey muḷukku (Therapeutic Oil bath) twice a week regulates the Mukkurram (Vaḷi, Aḷal, Aiyam) and maintains its equilibrium.

The recommended days for taking oil bath are

- Wednesday and Saturday for men and children
- Tuesday and Friday for women

**Procedure for Eṇṇey muḷukku (Therapeutic Oil Bath):**

- When oil is applied on the body, three drops must be instilled into each ear and two drops into each nostril and one drop in eyes.
- Application of oil should start from the vertex of the head downwards to all parts of the body and gently rubbed well, without heat generation.
- Naluṅku mā comprising of Pācippayaṟu can be used for bath.
- Depending on the country, season and state of body condition, water soaked with leaves of Mā (*Mangifera indica* L.), Nelli (*Embllica officinalis* L.) leaves or water mixed with aromatic powder or clear water may be used for bathing.
- Lukewarm water is used for bath.

**Frequency of Eṇṇey muḷukku (Therapeutic oil bath):**

- Twice a week

**Diet recommended during Therapeutic Oil Bath:<sup>2</sup>**

| Recommended diet                                                                    |                                |               |                                                 |
|-------------------------------------------------------------------------------------|--------------------------------|---------------|-------------------------------------------------|
|                                                                                     | English name                   | Tamil name    | Scientific name                                 |
| Greens                                                                              | Sessile Joyweed                | Ponṇāṅkaṇṇi   | <i>Alternanthera sessilis</i> (L.) R.Br. ex-DC. |
|                                                                                     | Purple Fruited Pea<br>Eggplant | Tūtuvēlai     | <i>Solanum trilobatum</i> L.                    |
| The above greens can be consumed in the form of stir-fries, chutneys, and curries   |                                |               |                                                 |
| Cereals                                                                             | Green gram                     | Paccai payaṟu | <i>Vigna radiata</i> (L.) R.Wilczek             |
|                                                                                     | Pigeons pea                    | Tuvarai       | <i>Cajanus cajan</i> (L.) Millsp.               |
| The above cereals can be consumed as sprouts, curry, or rasam (a South Indian soup) |                                |               |                                                 |
| Spices                                                                              | Pepper                         | Miḷaku        | <i>Piper nigrum</i> L.                          |
|                                                                                     | Cumin seeds                    | Cīrakam       | <i>Cuminum cyminum</i> L.                       |
|                                                                                     | Fenugreek                      | Ventayam      | <i>Trigonella foenum-graecum</i> L.             |
|                                                                                     | Cardamom                       | Ēlam          | <i>Elettaria cardamomum</i> (L.) Maton          |

| Recommended diet                                                                 |                      |                       |                                         |
|----------------------------------------------------------------------------------|----------------------|-----------------------|-----------------------------------------|
|                                                                                  | English name         | Tamil name            | Scientific name                         |
| The above spices can be added to all preparations as <i>Thirithoda Samaporul</i> |                      |                       |                                         |
| Tender Vegetables                                                                | Ridge gourd          | Pīrkkaṅkāy piñcu      | <i>Luffa acutangula</i> (L.) Roxb.      |
|                                                                                  | Snake guard          | Puṭalaṅkāy piñcu      | <i>Trichosanthes cucumerina</i> L.      |
|                                                                                  | Brinjal              | Kattari piñcu         | <i>Solanum melongena</i> L.             |
|                                                                                  | Beans                | Avaraikkāy            | <i>Lablab purpureus</i> (L.)            |
|                                                                                  | Drumstick            | Muruṅkaikkāy          | <i>Moringa oleifera</i> Lam.            |
| The above vegetables can be consumed as salad, soup, or curry                    |                      |                       |                                         |
| Fruit                                                                            | Gooseberry           | Nellikkāy             | <i>Emblica officinalis</i> Gaertn.      |
| Nellikkāy (Gooseberry) is recommended to be consumed before meals in day time    |                      |                       |                                         |
| Meat and Poultry                                                                 | Goat                 | Āṭu                   | <i>Capra hircus</i> L.                  |
|                                                                                  | Quail                | Kāṭai                 | <i>Coturnix coromandelica</i> JF Gmelin |
|                                                                                  |                      | Small fish, lake fish |                                         |
| Meat may be consumed as curry, steamed, or preserved as sun-dried salted meat.   |                      |                       |                                         |
| Beverages                                                                        | Buttermilk, cow milk |                       |                                         |

### Regimen on the Day of Eṇṇey muḷukku (Therapeutic Oil Bath):<sup>2</sup>

| Restricted Diet |                       |               |                                            |
|-----------------|-----------------------|---------------|--------------------------------------------|
|                 | English name          | Tamil name    | Scientific name                            |
| Greens          | Vegetable hummingbird | Akaṭṭi        | <i>Sesbania grandiflora</i> (L.) Pers.     |
|                 | Red spinach           | Taṇṭu kīrai   | <i>Amaranthus gangeticus</i> L.            |
|                 | Chinese spinach       | Ciṟukīrai     | <i>Amaranthus tricolor</i> L.              |
| Cereals         | Bengal gram           | Kaṭalai       | <i>Cicer arietinum</i> L.                  |
|                 | Horse gram            | Koḷḷu         | <i>Macrotyloma uniflorum</i> (Lam.) Verdc. |
|                 | Mustard               | Kaṭuku        | <i>Brassica juncea</i> (L.) Czern.         |
| Seeds           | Fennel                | Cōmpu         | <i>Foeniculum vulgare</i> Mill.            |
|                 | Sesame seeds          | Eḷ            | <i>Sesamum indicum</i> L.                  |
| Vegetables      | Bitter gourd          | Pākaṅkāy      | <i>Momordica charantia</i> L.              |
|                 | Cluster bean          | Kottavaraṅkāy | <i>Cyamopsis tetragonoloba</i> (L.) Taub.  |
|                 | Ash gourd             | Pūcaṇi        | <i>Cucurbita maxima</i> Duchesne           |
|                 | Onion                 | Veṅkāyam      | <i>Allium cepa</i> L.                      |
|                 | Colocasia tuber       | Cēmpu         | <i>Colocasia esculenta</i> (L.) Schott     |
| Meat & Poultry  | Crab                  | Naṇṭu         | <i>Brachyura</i>                           |
|                 | Chicken               | Kōḷi          | <i>Gallus gallus f. domesticus</i>         |
|                 | Sheep                 | Cem'mariyāṭu  | <i>Ovis aries</i> Linnaeus                 |

| Restricted Diet |                |              |                             |
|-----------------|----------------|--------------|-----------------------------|
|                 | English name   | Tamil name   | Scientific name             |
| Others          | Coconut        | Tēnkāy       | <i>Cocos nucifera</i> L.    |
|                 | Common tobacco | Pukaiyilai   | <i>Nicotiana tobacum</i> L. |
|                 | Cold water     | Kuḷirnta nīr |                             |
|                 | Jaggery        | Vellam       |                             |
| Beverages       | Curd, Milk     | Pāl, Tayir   |                             |

### Activities to be avoided during Eṇṇey muḷukku (Therapeutic oil bath)

- Exposure to cold breeze
- Exposure to strong winds
- Exposure to heavy sunlight
- Day sleep
- Coitus

### References:

1. K Duraisamy. Noi illa neri 3rd ed. 1993. 136–144 p.
2. Mohammed Iqbal P.A. Methods of Preparation of Oil by Theraiyar (Siddhar). 1st ed. National Institute of Siddha, Ministry of Ayush, Government of India, Chennai, Tamilnadu; 2016. 20–22 p.

### Kaḷiccal maruttuvam (Therapeutic Purgation)

Kaḷiccal maruttuvam (Therapeutic Purgation) refers to the therapeutic procedure that eliminates vitiated kuṛram through the rectal route.

“Vātamalātu mēṇi keṭātu”<sup>1</sup>

Skin diseases are primarily associated with the Vaḷi and purgation is the first line of treatment to remove toxins and aggravated Vaḷi.

### Administration of Kaḷiccal maruntu (Purgative medicine):

- A single dose of purgative medicine should be consumed before sunrise in the prescribed vehicle. It may be given for more than one day at the discretion of the Siddha physician.
- After 5-6 times of bowel evacuation, the patient is advised to consume butter milk/ lemon juice/ fried cumin seeds *kudineer* (Decoction).<sup>2</sup>
- Following purgation, symptoms such as tiredness, lightness of the body and fatigue of the sensory organs may occur, which are considered as positive signs.<sup>3</sup>
- The physician may decide the administration of the medicine based on the individual's body constitution and severity of the disease condition.<sup>2</sup>

### Care during Kaḷiccal maruttuvam (Therapeutic Purgation)

- If purgation does not begin after the purgative medicine, the patient should be encouraged to drink hot water.
- Successful completion of the purgation therapy is indicated by the expulsion of watery diarrhoea.<sup>3</sup>
- The duration and frequency of purgation may vary with individual.
- The frequency and nature of bowel movements may be recorded by physician.
- The person taking purgative medicine shall be monitored closely for any untoward reaction or discomfort, If any emergency arises medical care shall be given.
- If the patient exhibits a poor response on the day of purgation, food intake may be allowed. The purgative medicine can be administered at a later time, after determining the cause of the inadequate response and providing appropriate supportive care to mitigate any adverse effects of the drug on the body.<sup>4</sup>

### Management of intense purgation:

- If intense purgation happens, decoction of Cīrakam (*Cuminum cyminum* L.), Puḷi (*Tamarindus indica* L.) or Elumiccai cāru (Juice of *Citrus limon* (L.) Osbeck) shall be administered.<sup>2</sup>
- Vacampu Cuṭṭa kari (ash collected from burned *Acorus calamus* L.) or rice water with buttermilk may also be given.<sup>2</sup>

### **Diet regimen during Kaḷiccal maruttuvam (Therapeutic Purgation):**

- Easily digestible foods
- Rice porridge
- Double boiled porridge
- Lukewarm water
- Butter milk
- Tender coconut water

### **Restricted activities during Kaḷiccal maruttuvam (Therapeutic Purgation):**

- Spicy foods and deep-fried food items
- Heavy diet
- Drinking cold water
- Walking and travelling long distances
- Exposure to direct sunlight
- Day sleep, inadequate sleep at night
- Strenuous activity<sup>5</sup>

### **Contraindication:<sup>5</sup>**

- Children
- Pregnant women
- Women with menstruation
- Elderly person more than 70 years of age
- Acute fever
- Vomiting
- Diarrhoea
- Dysentery
- Dehydration
- Hernia
- Rectal and uterine prolapse
- Anal fissure
- Bleeding per rectum
- Tuberculosis
- Renal failure

## Reference:

1. Sanmugavelu M. *Noi Nadal Noi Mudal Nadal Thirattu* Part 1. Chennai: Indian Medicine & Homoeopathy Department; 2014,p..363.
2. Kuppusamy Mudaliyar KN,Uthamarayan KS. *Siddha Vaithiya Thirattu*, Indian Medicine & Homoeopathy Department; Chennai: 2009. p.172 -173
3. National Institute of Siddha, Siddha Standard Treatment Guidelines, Dept. of AYUSH, Government of India; 2019 Jul 22. Available from: [https://namayush.gov.in/sites/all/themes/webcms/images/org\\_str/SiddhaStandardTreatmentGuidelines.pdf](https://namayush.gov.in/sites/all/themes/webcms/images/org_str/SiddhaStandardTreatmentGuidelines.pdf)
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### Vānti maruttuvam / Vamaṇam (Therapeutic Emesis):<sup>1</sup>

Vamaṇam is the therapeutic procedure of inducing vomit. It is a bio-cleansing measure for the elimination of Aḷaḷ accumulated in the upper gastro intestinal tract.<sup>2</sup>

#### Pre-Treatment Procedure:

- Trunk and back massage may be performed for up to three days before administering therapeutic emesis.
- Medicated oils such as *Ashwagandha Balalatchadhi Thylam*, *Arakku Thylam*, *Narayanath Thylam*, or *Kaya Thirumeni Thylam* can be used for the massage.
- The entire body should be massaged with any one of the above-mentioned oils for three consecutive days.
- After massage, hot water fomentation, mild steam exposure, or covering the body with a blanket may be done to induce sweating and prepare the patient for emesis. The degree of sudation should be adjusted based on the vitiated humour and the location of the lesions.
- Patient may be advised to take only simple and light food the previous night.

#### Treatment Procedure:

- On the day of emesis, the patient should be given a stomach-full of simple, porridge-like liquid diet before administering the emetic drug.
- After administering the emetic medicine, the back is gently massaged in a downward direction and the abdomen in an upward direction.
- Vomiting typically begins with a nauseating sensation and usually starts within 15 to 50 minutes.
- Warm water or porridge may be given if emesis has not started spontaneously after consuming the emetic medicine, before manually stimulating the throat.
- If vomiting does not occur spontaneously, the base of the tongue or the back of the throat should be stimulated using a finger to induce vomiting.
- The frequency and characteristics of vomiting should be recorded by the physician.
- Patient is allowed to vomit 4 to 8 times, depending on the patient's condition and the severity of the disease as assessed by the physician.

#### Post-Treatment procedure:

- After vomiting, the mouth should be cleaned by gargling with warm water.
- Inhalation of turmeric or dried ginger smoke through the nostrils is advised to clear any particles that may have entered the nasal passages during gagging or vomiting.
- Once the nauseous feeling has subsided, simple and easily digestible food can be given.
- The patient should be closely monitored for any discomfort or adverse reactions, and immediate medical care should be provided in case of emergencies.

### Note:

- The duration and frequency of emesis vary from person to person.
- The emetic drug should be carefully selected to prevent complications such as uncontrolled vomiting or hematemesis.

### Contraindications:

- Children
- Women on menstruation
- Pregnant women
- Recent abortion or delivery
- Lactating mothers
- People experiencing excessive thirst, excessive hunger
- Elderly person
- Cardiac diseases
- Acute fever
- Acute pharyngitis
- Tuberculosis
- Acid peptic Disease
- Peptic ulcer disease
- Diarrhoea or Dysentery
- Dysphagia
- Neurological conditions such as Stroke, Parkinson's disease, multiple sclerosis, dementia, and any other neurological disorders where swallowing and cough reflexes are impaired

### Restricted diet and activities post emesis:

- Avoid spicy foods and deep-fried food items
- Avoid heavy diet and spicy foods
- Avoid drinking cold water
- Avoid walking and travelling long distances
- Avoid excessive anger and grief
- Avoid exposure to direct sunlight
- Avoid coitus
- Avoid day sleep, inadequate sleep at night
- Avoid prolonged sitting
- Avoid loud speaking

### References:

1. Jeyavenkatesh J. *Samana Maruthuvam*. 1st ed. Shanlax Publications, TPK Main Road, Vasanthan Nagar, Madurai.2018; 56–59 p.
2. Jeyavenkatesh J. *Siddhar Samana Marutthuvam* (Siddha balancing therapies) – A novel way for treating diseases. *Int J Allied Med Sci Clin Res*. 2018;6(3):713–22.

**Age-specific Dose Calculation<sup>1</sup>**

| Sr. No. | Age in Years   | Fraction of Adult Dose |
|---------|----------------|------------------------|
| 1       | Below 1 year   | 1/12th part            |
| 2       | Below 2 years  | 1/8th part             |
| 3       | Below 3 years  | 1/6th part             |
| 4       | Below 4 years  | 1/4th part             |
| 5       | Below 7 years  | 1/3rd part             |
| 6       | Below 14 years | 1/2 part               |
| 7       | Below 20 years | 2/3rd part             |
| 8       | 21-60 years    | 1 part                 |

**References:**

1. Thiagarajan R. *Gunapadam Thathu-Jeeva Vaguppu*. 4th ed. Chennai: Department of Indian Medicine & Homoeopathy; 2004. p. 55.