A Case Report on the Management of Palmo-Plantar Psoriasis in Ayurveda

Bhavya B.M¹, Shashidhar H Doddamani², Shubhashree M N³, Binod Kumar Bharali⁴

¹,²,³,⁴ Regional Ayurveda Research Institute for Metabolic disorders, Central Council of Research in Ayurvedic Sciences, Ministry of AYUSH, Govt. of India, 12, Uttarahalli Manavarthekaval, Uttarahalli Hobli, Bangalore South Tq, Kanakapura main road, Talaghattapura post, Bengaluru -560109.

Corresponding Author’s Email: drbhavya25@gmail.com

Date of Submission: 06 Jun 2020 || Date of Acceptance: 04 Feb 2021

Abstract
Palmo plantar psoriasis (PPP) is a variant of psoriasis which affects the skin of the palms and soles. In Ayurveda it is diagnosed as Vipadika which is a kshudra kushta (skin disease) with involvement of vata kapha dosha predominantly. PPP affects 2% to 5% of the population. There is an array of topical and systemic drug therapies to achieve optimal compliance and benefit. Here we report a case of a 54-year-old female from Karnataka who is a home maker, suffering from psoriasis since 2 years and is also a known case of diabetes, presented with hyper keratotic lesions and severe itching in both the palms & elbows. She reported to our OPD for the management of psoriasis. The treatment protocol was framed accordingly with the aim to treat on the lines of kshudra kushta with administration of interventions such as Arogyavardhini vati, cap. Atriso, Suta shekara rasa, and Brihat marichyadi taila, Shuddha Gandhaka for local application & follow up with Khadirarista internally and Brihat marichyadi taila as a local application for 3 months. The outcome was measured based on symptomatic relief in signs and symptoms and based on PASI (Psoriasis Area Severity Index) scoring. The patient had reported complete relief from the acute phase after 1 month and complete remission of cutaneous lesions was observed by the end of 3 months of treatment. Hence this case study proves to be successful in the management of PPP/Vipadika using Ayurvedic medication.

Key words: Kitibha kushta, Palmo-Plantar Psoriasis, Chronic inflammatory disease, Ayurveda, Skin lesion, Case report.

Annals Ayurvedic Med.2021; 10 (1) 55-64

Introduction
In Ayurveda, there is a disease condition called Vipadika which is one among 18 types of kushta and is placed in the group of 11 kshudra kushta (skin disease)¹ which is characterized by Pani-Padasphutana (fissure in palms and soles) and Tivravedana (severe pain)². There is no specific nidana and poorva rupa mentioned in classics for vipadika, but samanya kushta nidanas and poorvarupa are considered. As it is having predominance of kaphavatajanya dosha it is sadhya for chikitsa³. Samanya Chikitsa (General line of Treatment) includes snehapan using the taila or gritha prepared by the dashamuladi dravyas, tiktaka and maha tiktaka gritha based on doshas involved, and also administration of raktamokshana, virechana, and vamana as the first line of treatment⁴⁵⁶. Visheshha chikitsa (Specific treatment) includes shodhana indicated in bahudosha avastha. Shamana chikitsa involves Abhyantara chikitsa (internal administration) with ghrita’s (ghee) like Tundi ghrita, Triphaladi ghrita, Panchatiktaka ghrita etc⁷⁸⁹. Bahya chikitsa (external) with application of taila (oil preparation) or lepa (medicated paste) like kushtadya taila, dhattura bejda, vipadiakahara taila, Tundala lepa etc are advocated¹⁰¹¹. The clinical features of this disease are more or less similar with palmo-plantar psoriasis (PPP) variant of psoriasis. It characteristically affects the skin of the palms and soles and features hyperkeratotic, pustular, or mixed morphologies. It is known to be caused by a combination of genetic and environmental factors. Usually the patients with palmo-plantar psoriasis and palmo-plantar pustulosis report symptoms that may include itching, pain, and fissuring. Though spontaneous remission can occur, the persistence of flares is common. Patients may experience exacerbations brought on by seasonal changes, household...
work, and detergents. In fact, palmo-plantar psoriasis is more common amongst farmers, manual laborers, and housewives. It affects individuals of all ages, while palmo-plantar pustulosis has an average age of onset between 20 and 60 years of age. Though the incidence has not been determined, the palmo-plantar variant of psoriasis comprises 3% to 4% of all cases of psoriasis, which affects 2% to 5% of the population. These are monitored using the Palmo-Plantar Pustulosis Psoriasis Area and Severity Index (PPPASI) and the Palmo-Plantar Psoriasis Area and Severity Index (PPASI), respectively. The Palmar-Plantar Quality-of-Life Index is a statistically unverified assessment tool used in studies to quantify disease severity and quality of life.

First-line therapy begins with potent to super potent topical corticosteroids applied twice daily with or without occlusion, with gradual reduction in frequency over weeks to months. Calcipotriene is often combined or alternated with potent topical corticosteroids. Second-line therapy begins with light therapy, including PUVA and NB-UVB or monochromatic excimer laser. Biologics are reserved for patients who fail or cannot complete treatment with topical or other systemic medications. Etanercept is a TNF-\( \alpha \) inhibitor that showed a statistically significant reduction in PPPASI with 50 mg twice weekly for 24 weeks of therapy. Differential Diagnosis based on Ayurvedic and Modern Dermatology are mentioned in Table 1 and 2. Historically there has been limited data available on the treatment of palmo plantar psoriasis. This patient has also been excluded from clinical trials of psoriasis because less than 10% of their BSA (Body surface area) are affected. Even after repeated topical and systemic medication frequent exacerbations was seen in the patient brought about by seasonal changes, household works, and detergents. Hence this case was taken up to treat effectively through Ayurveda.

**Case History**

A case of a 54-year-old female who is a home maker, from Chickmagalur, Karnataka presented to our OPD during September 9th, 2019 with severe itching in both the palms & elbows along with cracking of skin & redness. The patient reported to be suffering from palmo plantar psoriasis (PPP) since 2 years & is also a known case of Type 2 Diabetes past 2 years. She took conventional treatment regimens from nearby clinic with no improvement but with further deterioration of the lesions. Hence she visited our OPD during September 2019 for further management. Family history was negative for similar conditions. Physical examination reveals non-uniform erythematous scaly patches involving the both the palms and with few small lesions on elbows. Laboratory investigation report found increase in glucose level and eosinophil count. The case was treated with Ayurvedic medicines on the line of management of Vipadika kshudra kushta with administration of following interventions involving drugs such as Arogyavardhini vati 250mg, cap. Atrisor (Atrimed), Suta Shekara Rasa 250mg orally twice a day, and Brihat marichyadi taila, shuddha Gandhaka for local application once a day & follow up with Khadirarista internally and Brihat marichyadi taila as a local application for 3 months. The outcome was measured based on symptomatic relief in signs and symptoms and based on PASI scoring. The patient had reported complete relief from the acute phase after 1 month of treatment and complete remission of cutaneous lesions was observed by the end of 3 months of treatment phase.

**Physical examination**

Patient was afebrile, with normal systemic functions. On local examination, skin manifestations such as scaling, erythema, induration was seen on both the palms which were asymmetrical with few small lesions found on elbows with indistinct borders. Examination based on Ayurvedic Parameters are mentioned in Table 3.

**Laboratory Examination:** Total WBC count - 6,500 cells/cumm, Neutrophils- 48%, Lymphocytes- 40%, Eosinophils- 7%, Monocytes- 5%, Basophils- 0%, AEC- 474 cells/cumm, FBS- 170mg/dl.

**Ayurveda Parameters on Pathogenesis of Disease**

**Samprapti:** Due to nidana sevana such as intake of excessive snigdha (oily), guru bhojana (Foods heavy for
digestion), ajeeuna bhojana (foods difficult for digestion), Vidahi ahara (spicy), Matsya (fish), Ati vyayama (excessive exertion), and exposure to sheetajala, after santapa (cold exposure immediately after sun bath), divaswapna (day sleep), bhaya (fear), shrama (physical stress), daily household works, and exposure to chemical and physical irritants such as detergents, soaps etc. Due to these factors the doshas undergo dushti, taking ashraya in the tvacha (skin), mamsa of pani (hands) and padatala (foot & sole) exhibiting features such as daha (burning sensation), kandu (itching), dalana (scaling) of the skin in pada (foot) along with features such as kharatva (roughness) and rukshata (dryness).

Samprapti Ghattaka’s
Dosha: Vatakaphaja (vata pradhana tridoshaja)
Dushya: Samanya: Rasa, Rakta, Mamsa, Ambu
Vishesha: Twak
Srotas: Rasavaha, Raktavaha, Swedavaha
Sroto dusti: Sanga of rasavaha, rakta vaha, sweda vaha srotas, Vimarga gamana of dosha and dushyas.
Adhisthaana: Ama pakwashaya
Vyaktasthaana: Hasta, kurpara
Rogamarga: Bahya

Intervention
Details of administration of Interventions are mentioned in Table 4.

Observation and Results
The outcome of the disease was measured based on symptomatic relief in signs and symptoms and based on PASI (Psoriasis Area Severity Index) scoring which is a point based system quantifying the area and quality. It measures erythema, induration, and desquamation (scaling) on a scale of 0-4, 4 being the most severe. The PASI score is widely used as a measure of improvement in many clinical studies. In this case study Psoriasis Area Severity Index (PASI) online calculator was used where the baseline PASI score was 4.8 (50-69%). An improvement in PASI score was seen early in treatment, at Week 4 PASI score was 2 (10-29%), and continued to improve throughout the treatment period at Week 12 score was 0.2 (<10%) and by the end of follow up week 20, the score was 0 (complete recovery).

Observations made before and after treatment are mentioned in Table 5 & skin manifestations are mentioned in Figure 1.

Discussion
Vipadika is a kshudra kushta roga and is also considered as one among 80 types of vataja nanatmaja vikaras. This following line of treatment was administered to the patient based on involvement of dosha, dushya and yukti of the vaidya which is also considered as a known and effective practice in treating twak roga’s (skin diseases). As the disease vipadika is a vatakapha dominant condition the medicine was aimed to achieve the samprapti bhanga of the roga (disease). The selected medications had properties of vrana shodhana (debridement), vrana ropana (healing), agnideepana (carminative), vedana sthapana (analgesic), sandhanakara (tissue repair), snehana (lubricating) and twachya (replenishes skin). It is also having the properties like rakta shodhana (blood purifier), is tridoshahara which predominantly subsides vata-kapha dosha (subsides tridosha esp. vata and kapha dosha).

Brihat marichyadi taila which was used for topical application contains drugs which mainly subsides vatakapha doshaja conditions, including kushta (skin diseases), vrana (wound), vicharchika (eczema) etc. According to the chikitsa sutra of the kushta, sneha i.e., taila (oil) is considered to be best for vata kaphatmaka twak vikaras due to its vrana shodhana properties (wound healing and cleansing). Taila is also considered as a good medium for absorption of medicinal values through the skin, and hence in this condition it helps in correcting the pathology as there is shedding of epidermal tissues and disturbance in skin barrier.

Shuddha gandhaka (purified Sulphur) was given for...
was given during the treatment phase as it helps in improving the impaired digestion by correcting the agni and by subsiding vitiated drava roopa pitta. It is mainly having tridoshahara property and also helps in correcting the pathology from the doshic level. It also relieves daha (burning sensation of skin), has soothing effect due to its karmukatva (action)\(^3\).

Khadirarista was administered during the follow up phase as Khadira (Acacia catechu) is considered as Kleda shoshaka (controlling the secretions from skin) due to its Khara guna (roughness). It is also having vrana shodhana and ropana (healing), shotaghna (anti-inflammatory) & anti-oxidant property. It is also very effective arishta (enemy) in the treatment of skin diseases and so indicated in kusha roga\(^4\). In total, the kustagna, twachya property of drugs along with sneha dravyas might have given multiple benefits in managing Vipadika.

These drugs primarily possess properties such as immunomodulatory, heptoprotective, anti-inflammatory, blood purifier, wound healing, debriding, aids healthy digestion, and prevents toxic build-up. Taila which is applied acts as an emollients, keratolytic agent due to its thick, greasy barrier by moisturising the dry, scaly skin and help prevent painful cracking and further managing the condition.

Although few spikes of re-occurrences of skin manifestations were observed in palm after 3 months of treatment and follow up due to the improper pathya (diet) followed by the patient. In short it can be concluded that though vipadika is a sukha sadhya kshudra roga (easily curable) but due to ones faulty life style practices and lack of Pathya & Apathya (diet and restrictions) it has been emerged as a chronic disorder with highest reoccurrence rate. It is also a known fact that this condition causes great discomfort to social, personal and mental wellbeing of the individual. But most of the times it is ignored by the patient as it affect only palms and foot. Even patient opts for treatment at later stages when diseases progresses to chronic stages with manifestation of pustules, severe fissuring, induration and erythema. Hence early
management should be a prime option to get good recovery.

Conclusion

_Vipadika_ though happens to be included under _kshudra kushta_, the skin manifestations can hamper the normal wellbeing of the person bringing mental agony & social stigma, as skin diseases are believed to be occurring due to curse of _poorvajanma_ (previous lives). Although no standardized treatment exists for patients with palmoplantar psoriasis increasing data on treatments, especially biologic agents, has been released in recent years. Most patients will require systemic agents given the recalcitrant nature of these skin diseases. Hence there is a need of simple and effective remedy in order to regain the normal texture of hand and foot cosmetically as well as to gain confidence among the patient. Based on the finding and previous experiences of great scholars it can be concluded that this ayurvedic management proves to be effective in managing skin diseases with good encouraging results.

Recommendations for Further Study

In the present study it was not possible to go to the depth of proper line of treatment practiced, as the patient was travelling from long distance. Hence few of the things which are left unfulfilled are recommended for the further study like treatment can be scheduled with a course of _shodhana_ and then the external application along with internal medicine so that it can be effectively treated and reduce the re-occurrences, study can conducted with a full fledge clinical setup with large sample size so that we can contribute to this field of Ayurveda.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent from the patient for images and case publication. The patient understand that their names and initials will not be published and due efforts will be made to conceal their identity.

Acknowledgement

Authors are highly thankful to Director General and Deputy Director General, CCRAS, New Delhi & Assistant Director Incharge, RARIMD, Bengaluru for their constant support and encouragement.

References


7. Shastri B. S. Ed., Yogaratnakara with Vidyotini

Bhavya B.M. et.al.: A Case Report on the Management of Palmo-Plantar Psoriasis...


23. Dr Amy Stanway. Acquired kerato derma.


Source of Support : Nil
Conflict of Interest : None

Table 1: Sapeksa Nidana/ Differential Diagnosis according to Ayurveda17,18,19:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type of kushta</th>
<th>Causes</th>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vipadika</td>
<td>It is caused by <em>kushta nidanam</em> with <em>vata-kapha dosha</em> predominance</td>
<td>One among the <em>kshudra rogas</em>. The <em>lakshanam</em> of <em>vipadika</em> are <em>Pani Pada sputanam</em> and <em>tvevo vedanam</em></td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Padadari</td>
<td>It is caused by <em>ati chankramana</em> (excessive walking). The doshic predominance in <em>padadari</em> is <em>vata</em></td>
<td>One among the <em>kshudra rogas</em>, having dry, itchy skin, hardness around the rim of the heel and cracks or fissures on the outer edge of the heel</td>
<td>Seen only in heels (<em>padik)</em></td>
</tr>
<tr>
<td>3.</td>
<td>Vicharchika</td>
<td>It is <em>Rakta Pradoshaja Vikara</em> having involvement of three <em>Dosha</em> with dominance of <em>Kapha</em></td>
<td>One among the <em>kshudra rogas</em>, characterized with symptoms, namely, <em>kandu</em> (itching), <em>srava</em> (discharge), <em>Pidaka</em> (vesicles), and <em>Shyava varna</em> (discoloration).</td>
<td>There is <em>srava</em> seen in this condition</td>
</tr>
</tbody>
</table>

## Table 2: Differential Diagnosis according to Modern Dermatology

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Type of Skin lesion</th>
<th>Causes</th>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Palmo plantar psoriasis</td>
<td>Combination of genetic and environmental factors such as seasonal changes, household work, and detergents etc., common amongst farmers, manual laborers, and housewives</td>
<td>itching, pain, and fissuring</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Dyshidrotic eczema</td>
<td>Stress, Pollen, moist hands and feet, excessive sweating or prolonged contact with water, metals like nickel, cobalt, etc. or reaction due to detergents, household chemicals, soap etc.</td>
<td>a type of eczema that causes tiny blisters to develop across the fingers, palms of the hands and sometimes the soles of the feet</td>
<td>Cold compresses, good skin care and moisturizing can help strengthen your skin against irritation, severe cases may require topical steroids, or phototherapy.</td>
</tr>
<tr>
<td>3.</td>
<td>Contact dermatitis</td>
<td>Skin coming in contact with irritating chemical, new allergen, repeatedly or from everyday substances such as water, too much pressure or friction on the skin and weather changes also due to metals, fragrances like perfumes, anti biotic ointments etc.</td>
<td>There is immediate reaction including pain, swelling and sometimes blistering along with itching skin and redness.</td>
<td>They are limited to the site of original contact, but more often spreads.</td>
</tr>
<tr>
<td>4.</td>
<td>Pityriasis rubra pilaris</td>
<td>The cause of PRP is unknown. It may be partially inherited. Occasionally precipitated by drug, such as sorafenib, insulin, imatinib, telaprevir, and vaccinations etc.</td>
<td>Presents with reddish-orange coloured scaling patches with well-defined borders.</td>
<td>They may cover the entire body or just parts of the body such as the elbows and knees, palms and soles.</td>
</tr>
<tr>
<td>5.</td>
<td>Acquired palmo-plantar kerato derma</td>
<td>Inflammatory skin conditions like Psoriasis, Infections, secondary to inherited conditions, medications, toxins, internal illness</td>
<td>It presents with thickening of the skin of the palms and/or soles which may be diffuse (involving most of the palms and soles) or focal</td>
<td>Localized mainly to pressure areas.</td>
</tr>
<tr>
<td>6.</td>
<td>Asteototic Eczema166:</td>
<td>Decrease in skin surface lipid and amino acid content of skin, decrease in Kerato hyaline – derived natural moisturizes, malnutrition, atrophy of skin, loss of fluid from the skin.</td>
<td>Condition occurs particularly on legs, arms and hands. It tends to be more marked during winter and in elderly people. The astetotic skin is dry.</td>
<td>The condition can remain in this state for months, relapsing each winter, clear in summer, but eventually permanently, scratching, rubbing, contact irritants and sensitizers cause further eczematous changes.</td>
</tr>
<tr>
<td>7.</td>
<td>Palmaris Sicca</td>
<td>In house wives and cleaners who frequently immerse their hands in water and detergents, exposure to mild irritants and mild trauma.</td>
<td>In patients of sicca, the skin falls dry, it becomes criss-crossed with superficial cracks associated with damaged horny layer.</td>
<td>But this is found in hand only.</td>
</tr>
</tbody>
</table>

Table 3: Examination based on Ayurvedic Parameters

<table>
<thead>
<tr>
<th>Ashtavidha Pareeksha</th>
<th>Lakshana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nadi</td>
<td>70/minute</td>
</tr>
<tr>
<td>Mutra</td>
<td>Prakrita</td>
</tr>
<tr>
<td>Mala</td>
<td>Vibandita</td>
</tr>
<tr>
<td>Jihwa</td>
<td>Saama</td>
</tr>
<tr>
<td>Shabda</td>
<td>Prakrita</td>
</tr>
<tr>
<td>Sparsha</td>
<td>khara sparsha</td>
</tr>
<tr>
<td>Druk</td>
<td>Prakrita</td>
</tr>
<tr>
<td>Akruti</td>
<td>Madhyama</td>
</tr>
</tbody>
</table>

Table 4: Details of administration of Interventions

<table>
<thead>
<tr>
<th>Date</th>
<th>Medicine</th>
<th>Dose</th>
<th>Anupana</th>
<th>Route of Administration</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/09/19</td>
<td>a. Arogyavardini vati (IMPCI)</td>
<td>1 tablet twice a day, after food</td>
<td>water</td>
<td>Oral</td>
<td>15 days</td>
</tr>
<tr>
<td></td>
<td>b. Cap. Atrisor (Atrimed)</td>
<td>1 caps twice a day, after food</td>
<td>water</td>
<td>Oral</td>
<td>30 days</td>
</tr>
<tr>
<td></td>
<td>b. Brihat Marichyadi taila (IMPCI)</td>
<td>10ml</td>
<td>-</td>
<td>Topical</td>
<td>3 months</td>
</tr>
<tr>
<td></td>
<td>c. Shuddha Gandhaka (IMPCI)</td>
<td>Pinch, once a day</td>
<td>-</td>
<td>Topical</td>
<td>15 days</td>
</tr>
<tr>
<td>7/11/19</td>
<td>a. Kaishora guggulu (IMPCI)</td>
<td>1 tablet twice a day, after food</td>
<td>warm water</td>
<td>Oral</td>
<td>15 days</td>
</tr>
<tr>
<td></td>
<td>b. Suta Shekara Rasa 250mg (IMPCI)</td>
<td>1 tablet twice a day, before food</td>
<td>water</td>
<td>Oral</td>
<td>15 days</td>
</tr>
<tr>
<td></td>
<td>c. Brihat Marichyadi taila (IMPCI)</td>
<td>10ml</td>
<td>-</td>
<td>Topical</td>
<td>continued</td>
</tr>
<tr>
<td>12/2/20</td>
<td>a. Khadirarista (IMPCI)</td>
<td>3 Tsp, twice a day</td>
<td>Mixed with two times water</td>
<td>Oral</td>
<td>1 month</td>
</tr>
<tr>
<td></td>
<td>b. Brihat Marichyadi taila (IMPCI)</td>
<td>10ml</td>
<td>-</td>
<td>Topical</td>
<td>continued</td>
</tr>
</tbody>
</table>

Table 5: Observations before & after treatment

<table>
<thead>
<tr>
<th>S N.</th>
<th>Clinical features</th>
<th>Before treatment</th>
<th>During Treatment</th>
<th>After treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Erythema</td>
<td>++</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Induration</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Desquamation/ Scaling of skin</td>
<td>+++</td>
<td>++</td>
<td>-</td>
</tr>
</tbody>
</table>
Figure 1: Skin manifestations before and after treatment

Before Treatment (3/09/19)

During Treatment (7/11/19)

After Treatment (12/2/20)