JOURNAL OF NATURAL REMEDIES
DOI: 10.18311/jnr/2024/34776

CASE REPORT

Management of Primary Hyperhidrosis with *Patolakaturohinyadi Kashayam* and *Shireeshadi Choornam (Avachoornana)* – A Case Report

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Abstract

Primary focal hyperhidrosis (primary hyperhidrosis) is a pathological disorder characterised by excessive sweating in the local sites such as the palmar surface of the hands, axillae, soles and face to a degree that interferes with daily life in affected persons. This case report brings into light an innovative management of Primary Hyperhidrosis. *Ayurvedic* formulations such as *Patolakaturohinyadi Kashayam* for internal use and *Shireeshadi Choornam* as *Avachoornana* for external use were administered for this condition. After 35 days, the patient was re-examined and there was a significant change in Transepidermal Water Loss (TEWL), hydration values and Hyperhidrosis Disease Severity Scale (HDSS) and Hyperhidrosis Quality of Life (HidroQOL) scores.

Keywords: *Avachoornana, Ayurveda*, Case Report, *Patolakaturohinyadi Kashayam*, Primary Hyperhidrosis, *Shireeshadi Choornam*

1. Introduction

Primary Focal Hyperhidrosis (PHH) is mentioned in the International Classification of Diseases (ICD-10-L74.519) under disorders of skin appendages. It is a pathological disorder characterised by excessive sweating in the local sites such as the palmar surface of the hands, axillae, soles, and face to a degree that interferes with daily life in affected persons. PHH affects individuals (both sexes equally) between the ages of 18-39. It also impairs daily activities including occupational impairments and thus negatively affects the QOL. PHH affects 3% of the population at least 176 million people worldwide. Prevalence is significantly higher than currently estimated because it is both underreported by patients and underdiagnosed by physicians. Studies on hyperhidrosis from India are rare. While the cause or causes of primary hyperhidrosis remains unknown, its pathogenesis is connected to the thermoregulatory centre of the hypothalamus and the autonomic nervous system. Postganglionic sympathetic cholinergic neurons release the neurotransmitter acetylcholine, which acts on eccrine sweat glands leading to sweat secretion. Increased sympathetic activity on eccrine glands can be induced by either emotional or thermal stimuli. Thus, conventional treatment targets include the neurotransmitter, nerves, eccrine glands, and eccrine ducts. Complications of hyperhidrosis include skin infections, social and emotional effects like clammy or dripping hands and perspiration-soaked clothes which affect work and activities[1]. The current standard of care including surgical and non-surgical interventions has its limitations still keeping a large group of adult population under the physical and emotional burden of hyperhidrosis. Hence, this case was taken up. An *Ayurvedic* formulation, described in the classics, which has *Swedahara* and *Dhourgandhyahara* action prepared in the form of *Avachoornana*[2] was introduced in the above said patient along with internal administration of *Patolakaturohinyadi Kashayam*. The *Avachoornana* was found to be user-friendly and convenient for the patients to apply on the affected parts, thereby

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Article Received on: 18.08.2023 Revised on: 28.11.2023 Accepted on: 29.11.2023

improving the quality of life of patients with excessive sweating in the localised areas.

2. Patient Information

A 22-year-old female patient, approached us, complaining of excessive sweating with dripping of sweat from both palms, soles, axillae, and face (forehead, right and left cheek, upper side of upper lip) for 17 years. The condition got aggravated when the patient was stressed, during an outbreak of emotions like sadness, anger and even during the rainy/winter season. Also, the clothes got drenched due to excessive sweating over the axillae. The condition negatively affected the QOL of the patient. She also found it very difficult to write an examination because the paper got torn due to the soaking of the paper (due to the dripping of sweat from the palm). The patient felt it slippery due to excessive sweating over the soles of her feet and hence found it difficult to walk and dance. In the initial stages, she consulted an allopathic physician who advised her to wait for its natural remission without any medication. But since then the condition has been the same and hence the patient approached us for better management.

2.1 Family History

The patient's second aunt and cousins also experienced the same complaint.

3. Clinical Findings

This endomorphic patient showed a blood pressure of 120/80mm of Hg, respiratory rate of 17/minute, and pulse rate of 72/minute. Pallor, icterus, cyanosis, clubbing, lymphadenopathy, and oedema were absent on general examination. On an *Ayurvedic* examination, her *Prakriti* (body constitution) was found to be *Pitta Kapha* and *Vikriti* (morbidity) *Dosha* was *Pitta Vikriti*. *Dhathu* was *Swedavaha srotas* and *Medovaha srotas*. *Desha* (habitat) was *Anupa*, *Kala* (season) was *Adana*, *Bala* (strength) was *Madhyama*, *Sara* (status of tissue and its related system) was *Madhyama, Samhanana* (compactness of body) was *Madhyama, Pramana* (stature of body) was *Madhyama, Satmya* (diet Status) was *Madhyama*, *Satwa* (psychic state) was *Madhyama, Ahara Sakti* (digestive capacity) was *Madhyama, Vyayama Sakti* (physical capacity) was *Pravara, Vaya* (age) was *Madhyama*. Clinically, the condition was diagnosed as primary hyperhidrosis based on the International Hyperhidrosis Society diagnostic criteria for Hyperhidrosis and the HDSS score to assess the severity.

4. Timeline

Timeline is explained in Figure 1.

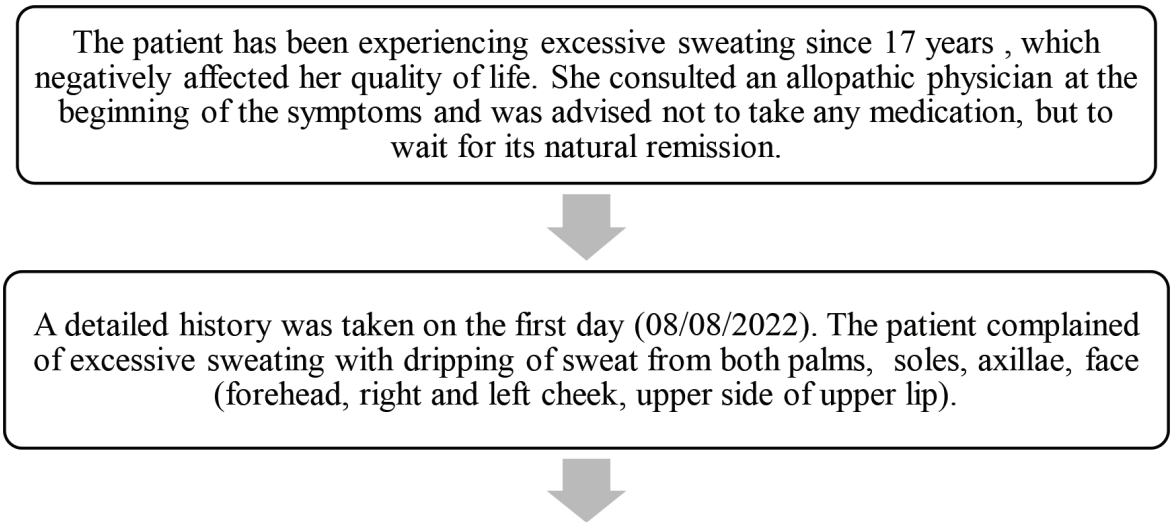

Figure 1. Timeline.

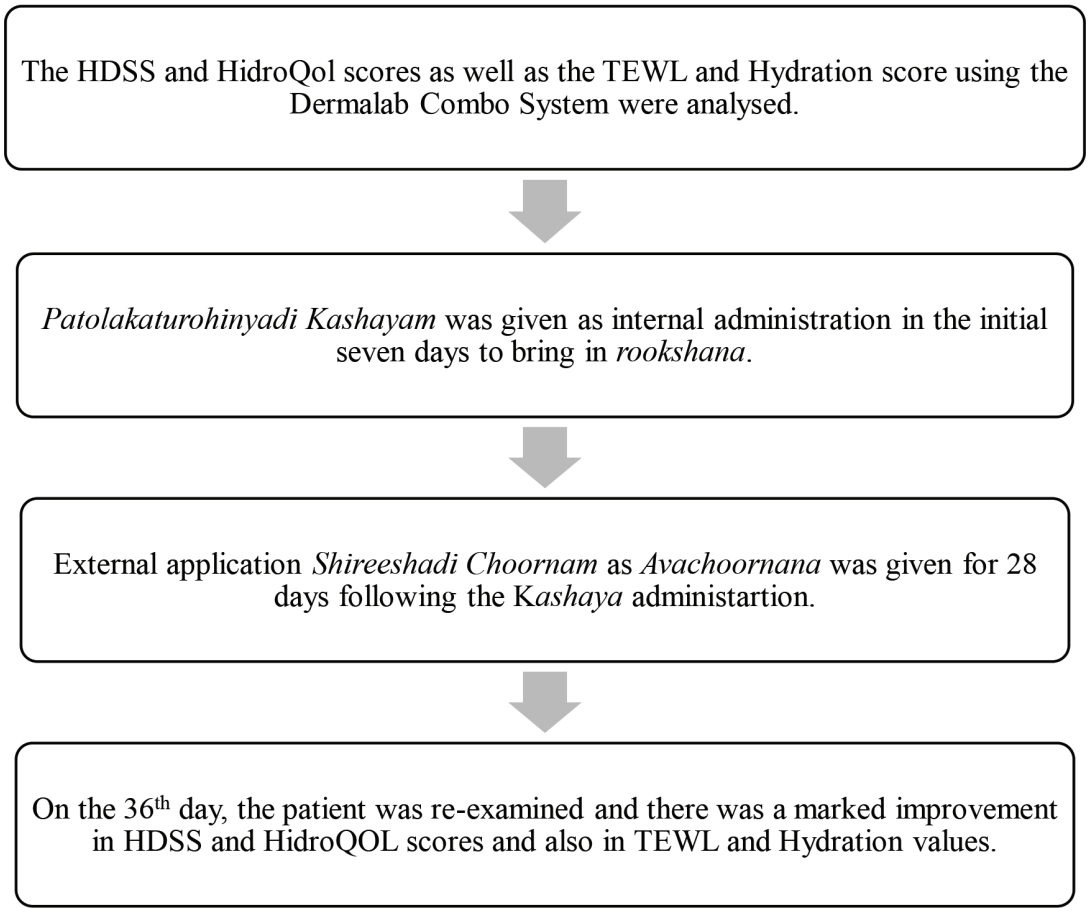

Figure 1. Continued...

5. Diagnostic Assessments and Diagnosis

The patient's diagnosis was done based on the International Hyperhidrosis Society for Primary Hyperhidrosis and the severity assessment was based on the HDSS score.

5.1 Diagnostic Criteria – International Hyperhidrosis Society[3]

Localised excessive sweating of at least 6 months duration with an unknown cause and a minimum of 2 of the following traits:

- Bilateral relatively symmetric sweating.
- Sweating that impairs daily activity.
- Occurs at least once a week.
- Age of onset less than 25 years.
- Positive family history of hyperhidrosis.
- Cessation of focal sweating during sleep.

6. Therapeutic Interventions

1. Internal administration of *Patolakaturohinyadi Kashayam*[4] (50ml twice daily, before food) was given for 7 days.
2. External Application *(Avachoornana)* of *Shireeshadi Choornam*[5] was given in sufficient quantity to be dusted and rubbed over the affected area after Bath and at bedtime for 28 days.

7. Follow-up and Outcome

The patient was assessed using the HDSS[6] score, HidroQol[7] and TEWL and hydration[8] levels were

assessed using Derma Lab Combo system[9] at the beginning and end of the treatment (Table 1), (Figure 2).

8. Discussion

Primary focal hyperhidrosis (primary hyperhidrosis) is a pathological disorder characterised by excessive sweating in the local sites such as the palmar surface of the hands, axillae, soles, and face to a degree that interferes with daily life in affected persons.

In *Ayurveda Sweda* is one among the *Mala* of body. *Sweda* imparts *Kleda* (moistness) and softness to the skin and supports body hair. *Sweda* excretion is carried out by *Vyana Vayu*. The *Sweda* is one of the sites of *Pitta Dosha*. Clinical symptoms of Primary Hyperhidrosis could be considered similar to *Atisweda*, which is included among 40 *Pittaja Nanatmaja Vikara*. The *Drava Guna Vriddhi* of *Pitta* contributes to *Kleda Vriddhi* causing *Atisweda*. Hence *Kledaharana* should be achieved. This is done by the administration of *Patolakaturohinyadi Kashayam* which is *Pittakapha Hara* and has an affinity to *Twak*. Followed by this topical application of *Shireeshadi Choornam* as *Avachoornana* which is *Sweda Hara* and *Dourgandhyahara* for 4 weeks[10].

Patolakaturohinyadi Kashayam is used here for *Rookshana*, By 7 days *Rookshana Lakshana*, such as lightness of body, regular bowel patterns, and

Table 1. Assessment scores of HDSS, HidroQOL, TEWL and Hydration (before treatment and after treatment)

Assessment	BT	AT
HDSS Score	3 (Severe)	2 (Moderate)
HidroQol Score	27	22
Dermalab Combo system (TEWL and Hydration Values)		
TEWL-Palms and Soles (Average)		
TEWL-Right Palm	27.97	15.73
TEWL-Left Palm	27.01	16.97
TEWL-Right Sole	23.47	-7.39
TEWL-Light Sole	19.98	-7.17
TEWL-Face (Average)		
Forehead	10.58	-5.98
Right Cheek	6.42	-8.31
Left Cheek	3.88	-12.46
Upper side of Upper Lip	4.53	12.96
Hydration-Palms and Soles		
Hydration-Right Palm	436.72	1022.06
Hydration -Left Palm	555.19	893.96
Hydration-Right Sole	123.42	66.29
Hydration-Left Sole	56.21	88.13
Hydration-Face		
Forehead	210.33	265.62
Right Cheek	159.21	336.01
Left Cheek	180.31	269.36
Upper side of Upper Lip	633.72	1066.26

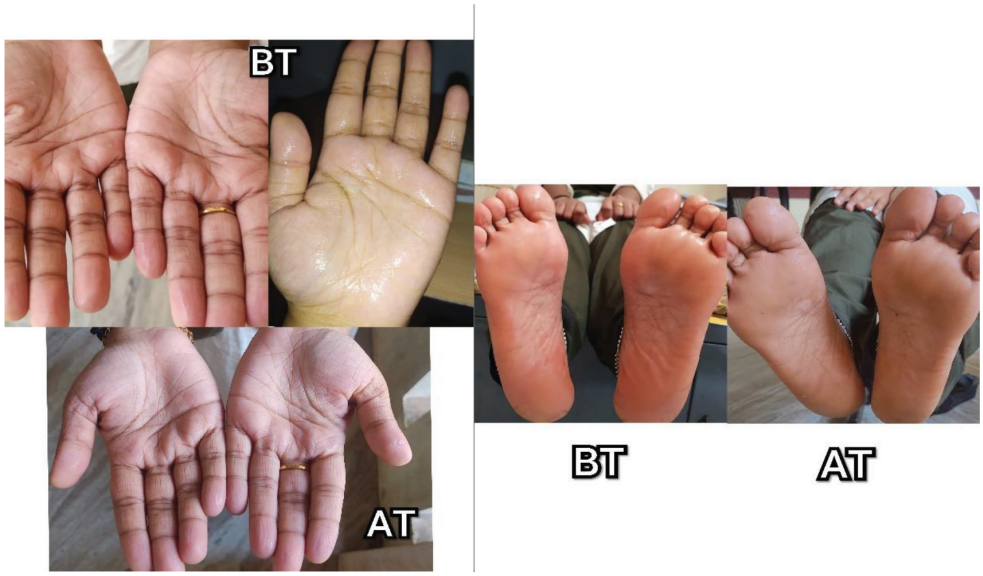

Figure 2. Photographs depicting the condition of PHH over the palms and soles, collected Before Treatment (BT) and After Treatment (AT).

improvement in appetite were achieved. No symptoms of gastritis or *Pitta Vriddhi Lakshana* were elicited during the administration of *Kashaya*. For hyperhidrosis, topical application is prescribed for four weeks conventionally. Thus *Avachoornana* is applied externally for 28 days, and it is also important that the powder remains in the affected area for a long time to ensure optimal absorption and results. Therefore the application of *Avachoornana* was selected at bedtime over the palms and soles and after bath over the axillae and face.

Thus, by analysing the levels of TEWL and Hydration using the Dermalab combo system before and after the treatment course, we can observe that TEWL values over palms, soles, face (forehead, right and left cheeks and upper side of upper lip) are reduced significantly by maintaining the Natural Moisturizing Factor-Hydration of the skin due to the inverse relationship between TEWL and Hydration levels[11]. However, the hydration level in the right sole showed a decrease which could not be attributed to any factors neither could be justified with any literature. Moreover, analysing the HDSS and HirdroQol values revealed a notable change in sweating over the axillae, palms, soles and face. The patient has not reported any adverse reactions or side effects during treatment.

9. Conclusion

A course of 35 days of treatment including *Kledahara* achieved by the internal administration of *Patolakaturohinyadi Kashyam* along with the external application of *Shireeshadi Choornam* as *Avachoornana* and by analysing the change in HDSS, HidroQOL, TEWL and Hydration levels using the Dermalab combo system, the condition of the patient improved considerably.

10. Patient Perspective

"I had excessive sweating over both palms, soles, axillae and face, which negatively influenced my quality of life by affecting my clothing and appearance. I found it difficult to write during examinations and my hobbies such as dancing were adversely affected. As a result of the 35-day treatment course, I got relief from the symptoms and noticed a remarkable improvement in my overall quality of life".

11. Informed Consent

The Authors certify that they have obtained the necessary patient consent forms. In the form, the patient has given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patient understands that the names and initials will not be published and due efforts will be made to conceal the identity, but anonymity cannot be guaranteed.

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