Psoriasis is one among the wide-spreading, chronic, frequently recurring diseases of the skin. Its world prevalence varies between 0.09% and 11.4% in 2013 which reported in 2006 as in between 0.5% and 4.6%. In Ayurveda, the description of Kushta-roga viz. Vata-Kaphaja kushta finds similarity with psoriasis. The common sites of occurrence of psoriasis are scalp, elbow, knee, earlobes and sole which are also considered as the location of Vata and Kapha.

The science of Ayurveda has anecdotal accounts of success in the management of psoriasis in the actual clinical practice even though it lacks the evidence-based medical dermatology research data. It observed that the physicians adopt several treatment protocols for the cure of this disease in clinical practice, which was not rigorously evaluating in research settings. This paper/report is one of the ‘Thuvaraka rasayana’ one such component that could improve treatment outcomes in Psoriasis.

A pre and post test case report selected of a 36-year-old lady patient who diagnosed as having stable psoriasis vulgaris for last seven years. She was administered with internal and external therapies along with Shodhana therapies (bio-cleansing procedures) and then followed by intake of Thuvaraka rasayana. The total duration of the treatment was 43 days, and the Study subject assessed before treatment, after treatment and on follow-up for improvement using PASI scoring, and histo-pathological study. All the symptoms observed in the beginning were found considerably reduced, and the severity also found mild. On the follow-up, it concluded that the lesions disappeared completely and the skin set back to its normal texture. Even though psoriasis is an autoimmune disease where recurrence rate found more Shodhana therapy and Thuvaraka rasayana have a definite role.

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extracted after boiling it three times in the decoction of bark of *Khadir* plant (*Acacia Catechu* of Fabaceae family). The oil of this fruit contains Chaulmoogoric acid, Hydnocarpic acid & palmitic acid as main component. It has a pungent taste and a typical smell. In Ayurveda it is termed as it has the property of *Katu Tikta rasa* (Pungent and Bitter taste), *Theekshna, Snigdha guna* (penetrating, unctuous properties), *Ushna Veerya* (hot in potency) and *Katu Vipaka* (pungent as end taste of digestion). This oil is said to be having the property of mitigating the disorders of *kapha vata* origin.

A pre and post test case report selected of a 36-year-old lady patient who had diagnosed as having stable psoriasis vulgaris for last seven years. She was administered with internal and external therapies along with *Shodhana therapies* (bio-cleansing procedures) and then followed by intake of *Thuvaraka rasayana*. The total duration of the treatment was 43 days and the study subject assessed before treatment, after treatment and on follow-up for improvement using PASI scoring, and histo-pathological study. All the symptoms observed in the beginning were found considerably reduced, and the severity also found mild. On the follow-up, it concluded that the lesions disappeared completely and the skin set back to its normal texture. Even though psoriasis is an autoimmune disease [9,10] where recurrence rate is found more than 60%, among all, stress aids to the key stimuli. The primary- psychological stress is acting as a precipitating factor in the causation psoriatic lesions. The presence of disease will then again become the causation of secondary stress, making the disease worst. *Kushta* is the term used in Ayurvedic text for all skin disorders including leprosy. The *Vata–Kapha* variety of *Kushta* shows resemblance with psoriasis in symptomatology which is of six [11] in number among which *Kitibhakushta* [12], *Ekakushta* and *Sidhmakushta* [13] have maximum resemblance with vulgaris variety of psoriasis. The derangement of seven factors including *Tridoshas* (three humors present in the body), *Twak* (skin), *Rakta* (blood tissues), *Mamsa* (muscle tissues) and *Lasika* (blood plasma) form the base for vitiation of *Srotas* (the channels which are transporting the metabolized tissues in the body) [14,15]. These vitiated factors spread transversely into the deeper *Dhathus* (body tissue elements) and *Srotas* producing scaly lesion. Due to the complexity in manifestation involving *Sapta-dooshyas* (the seven factors involved in creating disease *Kushta*) it becomes difficult to treat and require *Shodhana chikitsa* as mentioned in the Ayurvedic classics. Since the deeper *Dhathus* are affected repeated *Shodhana* (bio-purificatory methods) is necessary along with *Rasayana* (keeping the metabolic end product devoid of disease-producing toxic materials) [16] which will strengthen the *Srotas*. The *Thuvaraka rasayana* is selected as it is a best *Naimithika rasayana* (the drugs used in particular disease condition) in *Kushta*. Apart from this *rasayana* drug in this study various internal and external therapies were adopted as per the classics and the results found were encouraging.

2. Case information

A female patient of thirty-six-year old with the symptoms of psoriasis vulgaris admitted. Before the indoor management with Ayurvedic intervention, the patient was on Ayurvedic Conservative Outpatient management. The result of the Outpatient management was not found satisfactory and the patient was advised to get admitted. Then skin biopsy was taken along with other blood investigations to rule out other systemic illness before the indoor management with Ayurvedic intervention.

2.1. Clinical finding

The symptoms found in the beginning are Severe generalized itchy and scaly patches all over the body since seven years with remission and exacerbation. Bleeding spot while removing scales, Severe Constipation, Gastritis, Unusual falling of hair from the scalp since three years.

Based on the above complaints and histo-pathological examination the patient was diagnosed as *Psoriasis vulgaris* (Table 1).

2.2. Physical examination

At the time of testing the patient presented with severe localized red itchy and scaly rashes in different parts of the body.

2.2.1. Clinical observation

1) Severe erythematic and plaque on the thighs, low back below the B/L breast and on the scalp.

| Table 1 |
| Time line of the study. |
| --- |
| **Date** | **Day of event conducted** | **Label of event** | **Details of the event** | **Assessment observation** |
| Date 06/2/2016 | 0 day | Screening |  | PASI score 42 |
| Date 18/3/2016 | 1st day | Initiation of protocol (base line) | *Rookshana* for 3 days, *Snehapana* for 5 days. *Utkleshana* for *Vamana* 1 day *Madhyama shudhi* in *Vamana* 4 days, *Samsarjana krama* *Snehapana* started for three days. Two days *Sarvanga abhyanga* and *bhasha sweda* *Madhyama shudhi* in *Virechana* 50 4 days *Samsarjana Krama* Given for 5 alternative days, Diet restriction for another 15 days | Presence of dense psoriasis plaque on biopsy report |
| Date 28/3/2016 | 10th day | *Vamana* |  | Biopsy report Presence of psoriasis plaque (22/3/2016) |
| Date 6/4/2016 | 19th day | *Virechana* |  | PASI score reduced to 20 |
| Date 10/04/2016 | 23rd day | *Thuvaraka rasayana* |  | Presence of psoriasis plaque in biopsy report 25/3/2016 |
| Date 22/04/2016 | 35th day | Discharge and post treatment assessment |  | Absence of psoriasis plaque in biopsy report PASI score reduced to 0 |
| Date 22/5/2016 | After one month assessment | Follow up |  |  |
2) Positive Auspitz’s sign and Candle grease sign.
3) PASI scoring – 42.

2.2.2. Report on blood examination

Blood examinations were performed before (BT)(18/03/2016) and after the treatment (AT)(22/04/2016) marked improvement in the total WBC count from 4600 mm$^{-3}$ (BT) to 5800 /mm$^{3}$ (AT). Eosinophil count and monocyte count also showed improvements. ESR count showed remarkable change from 70 mm/h to 25 mm/hr. The lipid profile showed insignificant rise of total cholesterol, HDL, LDL and VLDL, but all were within normal limits. Renal and Liver function test remained normal. A detailed information on the report of blood examination has been provided as supplementary material. The ECG taken was observed and showed normal reading in all the leads at the time of screening.

2.3. Diagnostic assessment

Biopsy was taken from a fully developed primary lesion and the biopsy report with slides and blogs was collected and stored. The treatment protocol was planned as Deepana, Pachana with Gandharvahastadi kashaya 20 mL thrice in a day and Virecana with annakala churna 2 tsp thrice in a day with Kashaya to increase the agni (digestive fire) so as to attain Sanyak Snigdha Lakshana when Snehapana is done (optimum signs of proper absorption of fat in the body). The duration of Deepana Pachana was three days. After seeing proper Nirma Lakshana (optimal symptoms of digestion) and the patient was given Snehapana with Mahakhadira Ghrita with initial test dose of 30 mL to determine the agni that eventually got digested in 2 h. It was continued for another 4 days with the doses of 50 mL, 75 mL, 125 mL, 200 mL and 275 mL respectively followed by Abhyanga and Bashpa Sweda (oil massage and steam bath). On the 2nd day after the abhyanga and bashpa sweda, the Vamana therapy was done. Madhyama shudhi (medium bio-purification) was observed and was given Samsarjana krama (diatic restrictions) for 4 days (5 annakala). Snehapana for Virecana was started with Mahakhadira ghrita with the doses 55 mL, 130 mL and 265 mL and was calculated based on the power of digestion. Sarvanga Abhyanga and bashpa sweda was done for 3 days followed by Virecana with abhayadi modakam. Madhyama shudhi in Virecana and Samsarjana karma was also done for 4 days. After confirming the increase in the digestive fire, the administration of Thuvaraka rasayana has been started in the empty stomach. The initial dose was 10 mL. The patient vomited after 2 h of medicine intake. The patient had purgation for 4 times. The diet was restricted to liquid up to 1 pm. Then patient was served with gruel with minimum rice. The patient was given with a day of rest. This was an observation as the medicine acted as its normal function Udbhaya Gata Shodhana. Next day 20 mL of medicine has been given. The patient vomited once but the purgation was done for 3 times. After a day’s rest, the patient was administered with 20 mL of the medicine the patient vomited twice and purgated thrice same diet and rest were followed. Next day 20 mL of medicine has been given the patient purgated thrice. The same diet and rest have been given. One more the medicine has been given and the patient purgated for three times. After five days rest and diet restriction have been followed. The diet was structuredly arranged: Samsarjana karma manda, peya, vilepi, krita yusha, akrita yusha and odana for 5 days. The histo-pathological study and PASI scoring were done. It is observed that the histo-pathological study showed the existence of psoriasis but the PASI scoring reduced 3.8 from 42 then the patient was discharged no medication were provided.

Assessment of response: Both subjective and objective parameters were used for clinically assessing the response to the treatment. Histological finding were given much importance, the clinical assessment was carried out by using certain parameters to assess the response of the treatment in itching, scaling, thickening, erythema, dryness and Auspitz signs these signs and symptoms were graded using simple description scale as absent mild moderate severe and appropriate scoring was given.

3. Discussion

All the treatment selected for the patient was mainly aimed to revert the pathological process in kushta. Among the seven morbid factors, the Vata and Kapha had a major role in the pathogenesis and the Mahakhadira Ghrita, that was given for Snehapana, which has Vata Kaphahara property. It showed good improvement in decreasing itching in initial few days. The sneha and sweda helped in bringing the doshas from the deeper dhatus to kushta and by means of vamana and virechana it was removed. Snehapana with Mahakhadira Ghrita that has vata kaphahara in shamana doses, when given in larger amount, helped to dislodge the excessively morbid dosha from deeper dhatus without causing any strain to the patient. It also did the Utkleshana in the tissue and facilitated the movement of morbid doshas to the koshtha by getting liquefied with swedana and come to the koshtha and get expelled from it by emesis and purgation. Abhyanga and Sweda...
was done with Mahakhadira Chrita aiming to utilize its vata kaphahara property on skin. Ayurveda has mentioned seven layers of skin and kushta get localized in the fourth and fifth layer. The repeated shodhana therapy in the form of vanama and virechana the deranged doshas even in the deeper dhatus can be removed. It also helped to remove the ama in the rasa and rakta dhatus that normalizes the rakta from which the skin was formed. Thuvaraka rasayana, considered as a Shodhya-rasayana induced emesis and purgation, their by cleansing the system and paved a way for the formation of a new skin. As per Ayurveda, the skin was formed from rakta dhatu. This was due to the effect of thuvaraka on pitta sameekarana (balancing the pitta by improving the dhatvagni). Snehapana and shodhana was considered to be the main line of treatment for kushta in correcting the derangement of morbid doshas. Shodhana helped to eliminate the dosha as well as accumulated amavisha.

The histo-pathological study revealed a complete remission of the disease without the usage of conventional therapy that tend to have side effects. The patient was exposed to vigorous treatment modalities, often exhaustive and prolonged inpatient stay were considered as the limitations of the study.

4. Conclusion

After the end of the study all the symptoms observed in the beginning were considerably reduced and the severity also found mild. On the follow up it is found that the lesions were disappeared completely and the skin set back to its normal texture (Fig. 1). The PASI scoring had come down from 42 (base line) to 0 (at the end of follow up). A considerable changes were observed in the histo-pathological study and are tabulated in Table 2.

Conflict of interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jaim.2018.04.003.

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