

## Ayurvedic management of childhood stable plaque psoriasis: A case report

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### ABSTRACT

Psoriasis causes disfigurement of skin and can cause significant psychological effects in the patient. The onset of psoriasis in childhood is common. Systemic treatments and phototherapy have been of limited use in children and are found to have gonadal toxicity. In the present case report, a case of childhood psoriasis was treated with a course of Virechana, a form of purification procedure and internal administration of Guggulutiktaka Ghrita and Mahatiktaka Kashaya along with an external application of 777 oil. After 4 months of treatment, a complete remission of the disease was observed with the Psoriasis Area and Severity Index score getting reduced from 32.8 before treatment to 0 after treatment. This suggests Ayurvedic classical treatment can modify the disease process in psoriasis.

**Key words:** Guggulutiktaka ghrita, Mahatiktaka Kashaya, Psoriasis, Virechana

Psoriasis is a chronic inflammatory dermatosis. About one-third of patients of psoriasis is found having the onset of disease in the 1<sup>st</sup> or 2<sup>nd</sup> decade of life [1]. Pediatric cases are more common in females. Along with its physical symptoms, it causes significant emotional distress due to its cosmetic effect. The disease tends to have a fluctuating course with remissions and relapses. There is a wide spectrum of its clinical presentation, although the common lesion is erythematous plaques covered with silvery-white scales. The lesions are commonly found on the scalp, knees, elbows, and lower trunk, usually with a symmetrical distribution. The management strategies mainly involve topical steroids and the local application of coal tar with or without ultraviolet (UV) light exposure. Psoralen and UV A therapy involves systemic or topical administration of psoralens along with exposure to UV light in increasing dosages after requisite time gap [2]. It is effective for the severe disease, but it is usually not safe in children [3]. Systemic treatments have been of limited use in children and are found to have gonadal toxicity.

According to Ayurveda, psoriasis, referred to as Kitibha, is a variety of skin disorders collectively called Kushta [4]. The disease is mainly treated with Shodhana Chikitsa [5] which involves body purification therapies. Virechana, a simple and well-tolerated form of Shodhana Chikitsa is commonly advised in psoriasis. The procedure involves intake of medicated ghee for a period lasting up to 7 days [6] based on the patient's tolerance followed by a massage of the whole body with medicated oil

for 3 days [7]. Afterward, purgation is induced with a herbal preparation [8]. After the Virechana, the patient is managed with internal medications and external applications. In the present case of stable plaque psoriasis in a girl child, the above said line of treatment was followed with complete remission of disease achieved in 4 months.

### CASE REPORT

A 12-year-old female child presented with complaints of reddish patches over the skin of extensor aspect of the upper limbs, lower limbs, abdomen, back, and scalp for 7 years which had aggravated for 2 years. This was associated with severe itching over the skin lesions and scaling on scratching. The child was asymptomatic 7 years back, and then the child's mother noticed scaling associated with itching in the scalp. Gradually, the condition progressed and reddish patches over the extensor aspect of both upper and lower limbs, abdomen, and back were developed. Her mother also observed bleeding spots on scratching. Skin lesions tend to aggravate in winter and on the intake of oily and sour foodstuffs. The patient had a history of repeated episodes of sore throats 7 years back. No members in the family have a history of suffering from similar complaints.

The general examination of the patient revealed that the patient was afebrile. Her pulse rate was 72 bpm, respiratory rate was 20/min, and blood pressure was 110/70 mm of Hg. She had a tendency for constipated bowels and her tongue was coated. The skin examination revealed bilaterally symmetrical, circumscribed,

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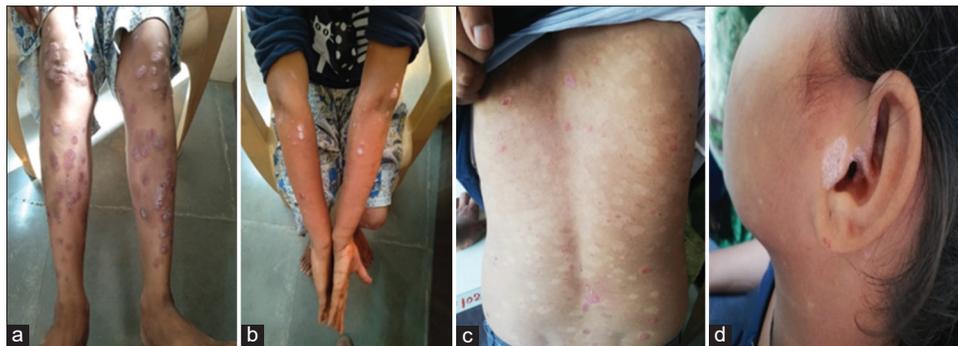
multiple, erythematous plaques measuring 3–4 cm in diameter with a broad base, covered with scales in the extensor aspect of upper and lower limbs, scalp, abdomen, and back. Auspitz and Candle grease signs were positive and Koebner's phenomenon was not observed (Figs. 1-4). Based on the history and clinical examination, the case was diagnosed as stable plaque psoriasis.

The treatment of the child was started in the following manner. Initially, Pachana (digestion boosting) was done with Agnitundi Vati 500 mg 1 tablet thrice a day with hot water for 3 days [9]. Arohanakrama (daily increasing dose) and Snehapana (intake of medicated ghee) with Guggulu tiktaka ghrita were given from first to 4 days in dosage 25 ml, 40 ml, 80 ml, and 100 ml, respectively [10]. After Snehapana, the patient was given sessions of Sarvanga abhyanga (whole-body massage) for 30 min with Marichadi Taila [11] and Bashpa Sweda (steam fomentation) for 3 days. On the 8<sup>th</sup> day, Virechana (purgation) with Trivrut Lehya 35 g was induced [12]. After this, Samsarjana Krama, a method of gradually bringing the patient back to a normal diet, was carried out for 3 days. After Virechana, Shamananga Snehapana (internal oleation) [13] with Guggulu tiktaka ghrita 10 ml OD in the morning on an empty stomach was administered for 2 months along with Mahatiktaka Kashaya [14] 20 ml BD and 777 oil (a proprietary Siddha oil) for external application. During this period, the patient was advised to avoid oily, fried, sour, and fermented foodstuffs. PASI (Psoriasis Area and Severity Index) score which is a tool for measurement of severity of psoriasis [15] was used to assess the patients response to treatment. Table 1 shows PASI score in the patient before treatment and Tables 2-4 show changes in PASI score after 2, 4 and 7 months of treatment respectively.

## DISCUSSION

Psoriasis is a T-cell mediated inflammatory disease presumed to be autoimmune in origin. It is characterized by hyper-proliferation of keratinocytes and increased epidermal cell turnover [16]. The management of psoriasis, like any skin disorder in Ayurveda, consists of purification procedures, and various internal and external medications [17]. In this case report, a case of childhood psoriasis was successfully treated with classical Ayurvedic principles of management, resulting in complete remission of the disease in 4 months. Singh *et al.* reported improvement in clinical features in a case of childhood psoriasis treated with Ayurvedic internal medications [18].

The probable mode of action of our treatment can be explained as below. The patient was administered Guggulutiktaka Ghrita, a medicated ghee, for 4 days, the dose of which was increased daily. Cow's ghee is considered an ideal base to prepare Ayurvedic formulations to target specific organs or tissues. The lipophilic action of ghee facilitates the transportation of active ingredients of herbal origin to the target tissue and their final delivery inside the cells [19]. Ghee, having anti-inflammatory activity due to its constituents like linoleic acid, helps in reducing inflammation of the skin in psoriasis [20]. One of the many herbs with which Guggulutiktaka Ghrita is processed is Guggulu, which has shown anti-inflammatory properties due to its constituents such as guggulipid and guggulsterone [21]. After the intake of medicated ghee for 4 days, the patient was given massage of the whole body with Marichadi Taila, medicated oil, followed by a steam bath for 3 days. External application of emollients and other fatty



**Figure 1:** Bilaterally symmetrical, circumscribed, multiple, erythematous plaques measuring 3–4 cm in diameter with a broad base, covered with scales in the extensor aspect of (a) lower and (b) upper limbs, abdomen, (c) back and (d) face



**Figure 2:** (a-d) Area and severity of lesions showing marked reduction in upper limbs and face and slight reduction in lower limbs and back after 2 months of treatment



Figure 3: (a-d) Complete disappearance of lesions in upper limbs and face and replacement of erythematous plaques by blackish patches of skin in lower limbs and back after 4 months of treatment



Figure 4: (a-d) Appearance of normal skin in upper and lower limbs, face and back with lightening of skin in lower limbs and back after 7 months of follow-up

Table 1: PASI score before treatment

Plaque characteristic	Head	Upper limbs	Trunk	Lower limbs	Total
Erythema	0	3	2	3	
Induration/Thickness	1	3	2	3	
Scaling	3	2	2	3	
Lesion score sum (A)	4	8	6	8	
Percentage area affected area score (B)	3	4	4	5	
Subtotals (C)	12	32	24	45	
Body surface area	×0.1	×0.2	×0.3	×0.4	
Totals (D)	1.2	6.4	7.2	18	32.8

PASI: Psoriasis area and severity index

Table 2: PASI score after 2 months of treatment

Plaque characteristic	Head	Upper limbs	Trunk	Lower limbs	Total
Erythema	0	1	1	2	
Induration/Thickness	1	1	1	1	
Scaling	1	0	1	1	
Lesion score sum (A)	2	2	3	4	
Percentage area affected area score (B)	1	2	2	3	
Subtotals (C)	3	4	6	12	
Body surface area	×0.1	×0.2	×0.3	×0.4	
Totals (D)	0.3	0.8	1.8	4.8	7.7

PASI: Psoriasis area and severity index

Table 3: PASI score after 4 months of follow-up

Plaque characteristic	Head	Upper limbs	Trunk	Lower limbs	Total
Erythema	0	0	0	0	
Induration/thickness	0	0	0	0	
Scaling	0	0	0	0	
Lesion score sum (A)	0	0	0	0	
Percentage area affected area score (B)	0	0	0	0	
Subtotals (C)	0	0	0	0	
Body surface area	×0.1	×0.2	×0.3	×0.4	
Totals (D)	0	0	0	0	0

PASI: Psoriasis area and severity index

Table 4: PASI score after 7 months of follow-up

Plaque characteristic	Head	Upper limbs	Trunk	Lower limbs	Total
Erythema	0	0	0	0	
Induration/thickness	0	0	0	0	
Scaling	0	0	0	0	
Lesion score sum (A)	0	0	0	0	
Percentage area affected area score (B)	0	0	0	0	
Subtotals (C)	0	0	0	0	
Body surface area	×0.1	×0.2	×0.3	×0.4	
Totals (D)	0	0	0	0	0

PASI: Psoriasis area and severity index

substances has been proven to benefit the skin in psoriasis [22]. After this, Virechana was induced with Trivrut Lehya, a herbal

preparation causing purgation. This whole process, called Shodhana in Ayurveda, purifies the body.

After this, the patient was administered Guggulutiktaka Ghrita and Mahatiktaka Kashaya daily along with the external application of 777 oil. Guggulutiktaka ghrita probably reduces the lesions of psoriasis due to its anti-inflammatory, anti-oxidant, and immunomodulation effects in psoriasis. Mahatiktaka kashaya, a polyherbal decoction, is usually recommended in Ayurveda for a variety of skin disorders. 777 oil is medicated oil that reduces dryness of skin associated with psoriasis and may help in reducing the hyperproliferation of keratinocytes.

## CONCLUSION

Childhood psoriasis, though common and managed successfully by conventional treatment, poses challenges to clinicians due to issues such as tolerance, side effects, and compliance over a long period of time. Ayurveda considers psoriasis under the umbrella of a group of skin disorders collectively termed as Kustha. The principles of treatment of skin disorders in Ayurveda include purification procedures such as Vamana and Virechana, internal medications, and external applications. In the present case report, a case of childhood stable plaque psoriasis was treated with Virechana followed by internal administration of Guggulutiktaka Ghrita and Mahatiktaka Kashaya along with the external application of 777 oil.

Hence, it can be concluded that the Ayurvedic line of management can effectively modify the disease process in psoriasis. Furthermore, the absence of any side effects of therapy, in the long run, makes patients tolerate treatment and have better compliance.

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