

# EFFECTIVENESS OF *BAKUCHI* (PSORALEA CORYLIFOLIA LINN.) AS RASAYANA THERAPY IN PSORIASIS - A CASE REPORT

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## Abstract

Psoriasis is a chronic and debilitating disease with a considerable global impact, characterized by increased rates of relapse and remission, significantly affecting the psychosomatic well-being of patients. It is a disease which can produce adverse effects on different tissues including joints and which is also characterised by recurrence after treatment cessation. This is the case study of a 61-year-old male who was a chronic smoker presenting with complaints of itchy, scaly lesions all over the body, especially over face, ears, head, back, bilateral lower limbs and upper limbs for the past 12 years which had aggravated over the last 2 months and consulted OPD of Vaidyaratnam PS Varier Ayurveda College, Kottakkal. The treatment approach adopted in this case of plaque psoriasis was *sodhana* (biopurification) therapy followed by *rasayana* (rejuvenation) therapy. The combination of *Bakuchi rasayana* used here contains only minimal ingredients, yet it is an effective regimen. Also, it has additional benefits like easiness of preparation and palatability. After the full course of treatment there was an overall improvement in symptoms, notable among them were a decrease in PASI score from 14.5 to 4.8, and a significant enhancement in the patient's quality of life. Following the *rasayana* therapy, the patient was able to pass bowel without straining. Thus, the combination of *sodhana* therapies followed by the administration of *Bakuchi rasayana* played a significant role in the marked improvement of lesions in plaque psoriasis.

**Keywords** –psoriasis, *bakuchi*, *rasayana*, *ekakushta*

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## Introduction

Psoriasis is a chronic inflammatory, hyperproliferative skin disease which has got multiple triggering factors.<sup>1</sup> It is characterized by well-defined, erythematous scaly plaques, particularly affecting extensor surfaces and the scalp.<sup>2</sup> Usually, it has a course of relapses and remissions. It occurs equally in both sexes and at any age, although it is uncommon under the age of 5 years. More than 50% of cases present before the age of 30 years. Psoriasis has a multifactorial inheritance and the severity of the disease may depend on environmental, dietary, genetic, geographical and psychological factors. The incidence of psoriasis ranges between 0.44% and 2.2% among total patients with skin diseases while the overall incidence in India is about 1.02%.<sup>3</sup> Psoriasis is considered a psychosomatic disease that affects the physical, psychological, and social state of the individual due to the stigma associated with it. The most common type is chronic plaque psoriasis which is seen in 80–90% of patients with psoriasis. The hallmark of classic plaque psoriasis is well-demarcated, symmetric and erythematous plaques, with overlying silvery scales typically located on the scalp, trunk, buttocks and extremities.<sup>4</sup>

The treatment aims to reduce symptoms and improve the quality of life for patients. In the modern medical system, local measures to manage psoriasis include coal tar preparations, calcipotriol, retinoids, corticosteroids and ultraviolet radiations. Systemic treatments commonly used include photochemotherapy with PUVA, retinoids, methotrexate, cyclosporine-A as well as corticosteroids.<sup>5</sup>

In *Ayurveda*, plaque psoriasis is categorized under *Kushta* disease, which can be correlated with *Eka kushta*, a type of *kshudra kusta* characterized by features such as *asweda* (reduced sweating), *mahavastu* (lesions

extending over a large area), and *matsyasakalopama* (lesions resembling fish scales) as explained in *Caraka Samhitha*. Acharya *Susrutha* describes it as *krishna aruna varnata*. The etiological factors lead to the vitiation of *tridosha*, especially *vata* and *kapha*. These *dosha*, through *tiryakvahini sira*, proceed to *bahya rogamarga* comprised of *twak*, *rakta*, *mamsa*, and *lasika*, causing the symptoms of the disease. The primary line of treatment involves repeated *sodhana* therapies followed by *samshamana* and *rasayana* medicines. *Rasayana* therapy is the best treatment for chronic diseases and it acts as rejuvenative at the cellular level by immunomodulation.

### Case description

A 61-year-old chronic smoker sought consultation at the outpatient department (OPD) of Vaidyaratnam PS Varier Ayurveda College Kottakkal, presenting with complaints of itchy, scaly lesions all over the body—face, ears, head, back, bilateral lower limbs, and upper limb for the past 12 years, aggravated over the last 2 months. The patient also reported a feeling of dryness over the lesions all over the body. The lesions on the head were associated with burning sensation. The lesions were also reported as exhibiting a pattern of relapse and remission. Initially, the patient had undergone Allopathic management and later turned to Ayurvedic treatments. The lesions appeared flaky in nature and often displayed bleeding spots. Nail changes characterized by nail pitting and discoloration were noticed.

The past history of the patient revealed that he had undergone hip surgery in 2022 due to a fracture. Upon examination, the patient displayed a normal appetite, but experienced hard bowel movements that were relieved only with the use of laxatives (Ayurveda). Additionally, the patient's sleep was disturbed sleep due to itching. The patient, a chronic smoker, had been smoking four beedis per day since the age of 15. His dietary pattern included a mixed diet with a predominant intake of spicy non-vegetarian food.

Examination of the integumentary system revealed irregularly shaped lesions of varying sizes with merged borders over the head, ears, face, neck, back, upper limbs and lower limbs. The color of the lesions was mainly silvery-white, while those on the dorsum of the feet appeared blackish-brown. Watery blood-mixed discharge was observed from lesions on the head and ears. Upon palpation, the lesions felt hard, rough and raised. Positive signs such as the Candle Grease test, Auspitz sign, Koebner's phenomenon and presence of Woronoff rings were noted. The tongue exhibited slight coating and the patient's voice was clear. Punctuate pitting, onycholysis and nail thickening were noted during nail examination.

The patient's constitution indicated a *Madhyama Sara*, *Samhanana*, *Satva*, *Vyayamshakti*, *Aharashakti*, *Jaranshakti* and *Sama Pramana*. However, his *Satmya* was aligned with *sarvarasa sathmya* with a preference for *katu lavana rasa* dominant foods, consuming fish daily.

The patient was admitted on December 19, 2022, to the male general ward of the IP department at Vaidyaratnam PS Varier Ayurveda College, Kottakkal and was under treatment upto January 31, 2023. The involvement of *tridosha* was evident as the lesions were rough and scaly in certain areas, while others exhibited oozing and a burning sensation, such as those on the ears, forehead, and scalp. The severity of the disease (*rogabala*) was *pravara* and involved *rasa*, *rakta* and *mamsa dhatu*.

### Treatment schedule

**Table 1** - Treatment schedule

Date	Procedure	Days	Intervention	Remarks
19 December- 21 December	<i>Takrapana</i>	3 days	<i>Takra</i> – 2L along with 1tsp <i>panchakola</i> <i>choorna</i>	<i>Rookshana</i> obtained in <i>koshta</i> and also <i>twak</i> .
22 Dec- 28 Dec	<i>Snehapana</i>	7 days	<i>Kalyanaka ghrutha</i>	Dose increased from 30ml to 200ml Complication: urine passed with a reddish tinge. Patient

				was asked to improve water intake after attaining appetite.
29 Dec- 1 Jan	<i>Abyanga and ushna jala snana</i>	3 days		
2 Jan	<i>Virechana</i>	1 day	<i>Trisodhini kasaya</i>	6 vega obtained. No complication was noted. <i>Samsarjana krama</i> followed
5 Jan -12 Jan	<i>Nasya</i>	7 days	<i>Anu thaila and nimba thaila</i>	Moderate <i>kapha</i> elimination was noted in the first 2 days of <i>nasya</i>
13 Jan	<i>Raktamoksha</i>	1 day	Using 18 gauge needle	150ml blood taken. Patient stable
14 Jan	<i>Haritakyaadi shodhana</i>	1 day	<i>Haritakyaadi shodhana</i> 30 g with hot water.	6 vega obtained. No complication noted.
15 Jan- 16 Jan	<i>Yava bhojana</i>	2 days	125 gm of <i>Yava</i> as porridge with milk once a day. Followed by <i>Laghu aahara</i>	Normal bowel movements seen after 2 days
17 Jan – 15 Feb	<i>Rasayana Bakuchi</i>	30 days	6g <i>bakuchi rasayana</i> increased up to 25 gm	Lesions showed marked reduction

### Preparation of *Bakuchi rasayana*

*Bakuchi* was collected, washed and sun-dried. After it got completely dried, it was powdered and filtered through a clean kora cloth to make it *nisthusha*. The resulting powder was mixed with equal amount of powdered jaggery. This mixture was then placed in a mud pot coated with *ghrta* (clarified butter) which was sealed and kept in a heap of rice (*dhanyarashi*) for 7 days. This preparation, with few ingredients and an easy preparation process, was done as indicated in *Astanga Samgraha Uttarasthana, Rasayana vidhi adhikarana*. Acharya suggests that administering this combination of *bakuchi rasayana* for a period of 30 days can aid in correcting *kushta*

### Administration of *bakuchi rasayana*

On the first day, the *bakuchi rasayana* was administered at a dose of 6g (3g *bakuchi* plus 3g jaggery), gradually increasing the dosage up to 25g (12.5g *bakuchi* plus 12.5g jaggery). The patient was advised to consume it at 8 am in the early morning with hot water. A diet of milk, *yavagu*(rice gruel), milk porridge, *yava bhojana* was advised during the administration of the *rasayana*, generally, he was asked to use light and easily digestible food.

### Outcomes

All symptoms exhibited a significant change, with a notable reduction in the PASI score from 14.5 to 4.8 following the treatment. Initially, the patient experienced hard bowel movements that were relieved only by taking Ayurvedic laxatives. However, after the administration of the *rasayana*, the patient was able to pass

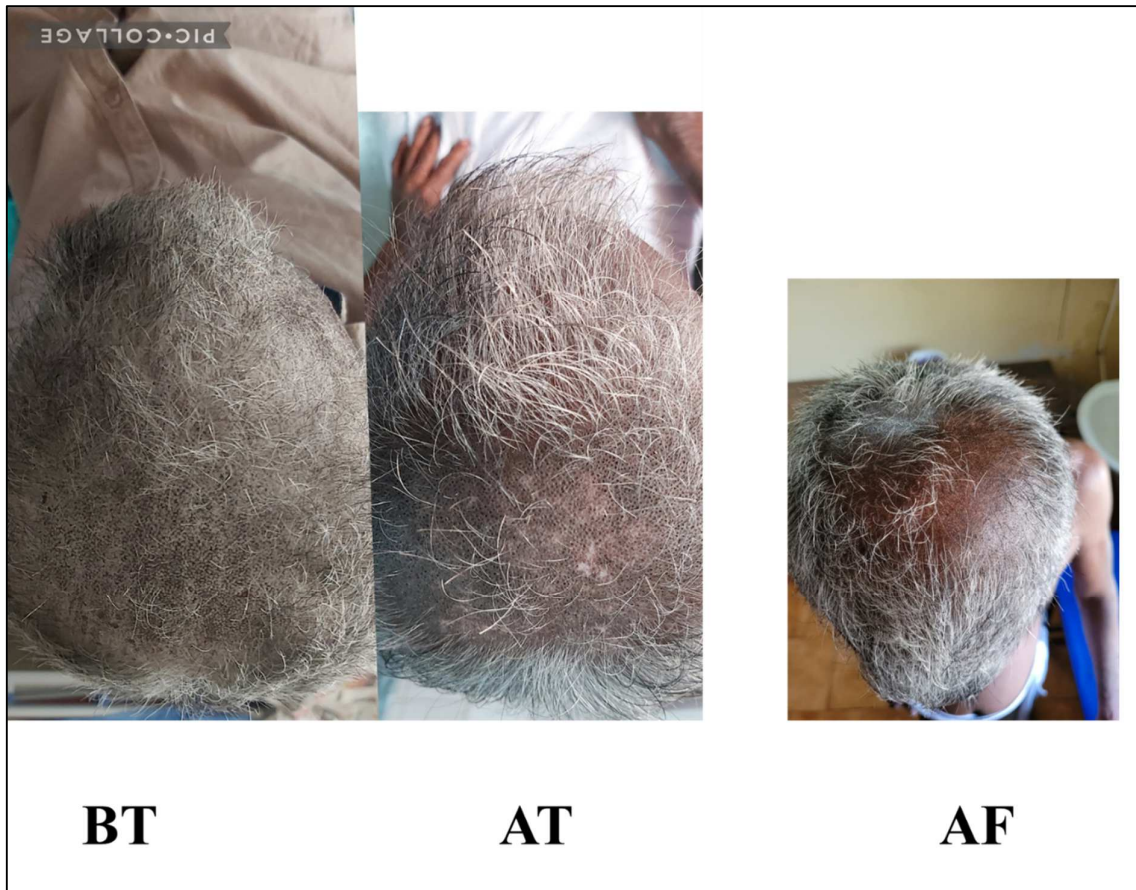
bowel daily without straining. A considerable improvement in the patient's quality of life was also reported. Figures 1 -5 compares the lesions Before and After treatment and After Follow up



Figure 1



Figure 2



**Figure 3**



**Figure 4**



Figure 5

### Discussion

*Kushta* is a condition wherein vitiated *dosha* combine with the seven *dhatu*, resulting in various symptoms. While it is considered a challenging condition to treat (*Duschikitsitha vyadhi*), *sodhana* therapy plays a crucial role in eliminating deep seated morbid *dosha*, particularly in a state of extensive *dosha* imbalance (*bahudosha avastha*).

*Eka kushta*, primarily a *vata-kapha* predominant disorder, required a treatment plan aimed at pacifying these *dosha*, despite the presence of *pitta* vitiation. The strategy involved managing all three *doshas* and adopting *rasayana* therapy to prevent recurrence. *Takrapana* was chosen as the initial treatment as it offers *rookshana* before *snehapana*. *Takra* produces *rookshana* by absorbing excess *meda* and *kleda*. It has *deepana*, *pachana*, *sangrahi* and *vatakapahara* properties which assists in this process,

*Chakrapani* emphasizes the importance of starting *kushta* treatment with *ghrita pana* when the disease becomes evident in the *rupavastha*. *Susrutha* recommends *Kalyanaka ghrita* for *visha* (poison) and *garavisha* conditions. While analyzing the ingredients of *Kalyanaka ghrita*, it was found that 25% of the drugs exhibited *kushtaghna* action. Most of these drugs possessed *tridosahara* and especially *kaphapittahara* properties. The constituents within *Kalyanaka ghrita* comprised drugs with *vishaghna*, *kushtaghna*, *hrudya*, and *raktashodaka* properties. The specific drugs like *haridra*, *malati pushpa*, *tagara*, *daruharidra*, *padmaka*, and *manjishta* exhibited *vishaghna* properties, while *manjishta*, *chandana*, and *padmaka* were known for their *raktashodaka* properties.

*Trisodhini kasaya*, used for *virechana*, is referenced in *Ashtanga Hridaya Kusthta Chikitsa prakarana*. It comprises *triphala*, *trivrut*, and *danti*. *Triphala* is recognized as *kushtagna* by all *Acharyas*. It also falls under *virechanaupayogi dravyas*. *Danti* possesses *katu-tikta rasa*, *tikshna-sara-vikashi guna*, *ushna virya*, *katuvipaka*, and *Kaphavatahara* property. It exhibits *sramsana* (laxative), *virechana*, and *adhobhagahara* properties and therefore, it is indicated in *Kusthta*. *Trivrut* acts as a potent laxative, characterized by *ushna virya*, *katu vipaka* and *ruksha guna*. *Kushta* is included under *raktapradoshaja vikaras*. So eliminating vitiated *pitta* by *Virechana* helps in purifying *rakta* and consequently aids in curing *raktapradoshaja vikaras*. *Virechana karma* specifically targets *sapthadravyas* (*rasa, rakta, lasika, udaka, kapha, pitta*) and *vata* which

are crucial factors in causing skin disorders. In cases of *rakta dushti*, aggravated *pitta* lodges in the liver and gall bladder, which can be eliminated through *virechana karma*.

*Nasya karma* aids in eliminating *kapha dosha* from *urdwajathru*. Since this is the major location of *kapha dosha*, *nasya* has a comprehensive effect on the entire body. *Nimba Taila* possesses *laghu – snigdha guna* and *vata - kaphahara* properties. According to *Acharya Sharangdhara*, *Nimba Taila* has *sukshmaguna*, allowing it to easily penetrate the microchannels of the body. *Taila*, being *vata kapha samana*, exhibits *ushna*, *tikshna*, and *vyavayi guna*, enabling it to travel through microchannels and exert its action. In *Kusta*, the *khavaigunya* resides in *twak*, *lasika*, *mamsa*, and *rakta*. So *raktamokshana* which eliminates *dushta rakta*, aids in correcting the pathology and in the cure. The *mala* of *rakta* is *pitta dosha*, and *raktamokshana* helps in correcting the vitiated *pitta* along with *rakta*.

*Bakuchi* (*Psoralea corylifolia L.*) also called as *Somaraji* is a classical pharmacopeial drug extensively used in treating *Kushtha* and *Shvitra* and in various skin conditions.<sup>14</sup> Its properties include *madhura* and *tikta* tastes along with *laghu*, *ruksha guna* and *katu vipaka*. These attributes of *bakuchi* contribute to its *deepana*, *pachana*, *pittashodhaka* and *vata-kaphashamaka* properties.<sup>11</sup> According to *Acharya Bhavaprakasha*, *Bakuchi* possesses *Twachya* (skin nourishing), *Keshya* (hair growth promoting) and *Kushthghna* (effective against skin diseases) properties.<sup>12</sup> Both *Acharya Sushruta* and *Vagbhata* considered *Bakuchi* as a *Rasayana dravya* (rejuvenating substance) for all skin disorders.<sup>13</sup>

The coumarins, Psoralen and isopsoralen, compounds found in *Bakuchi*, have shown target prediction on nuclear factor NF-kappa-B p105 and Acetylcholinesterase. NF-kappa-B p105 (NF-κB) acts as a regulator of innate immunity and an inflammatory mediator.<sup>15</sup> Flavinoids have anti-oxidant, anti-inflammatory and anti-bacterial action, while the benzofurans in *Bakuchi* have anti-inflammatory properties. On analysing the compounds of *Bakuchi* Psoralen, Isopsoralen, Imperatorin, Bavachinin A, Corylin and Bakuchiol have anti-inflammatory activities. Similarly, Bavachinin A, Corylisoflavone A, Bakuchiol, Isopsoralen have anti-oxidant properties and Psoralin, Imperatorin, PCp-1 (a polysaccharide from PCL) have immunomodulatory effects. The anti-inflammatory and anti-oxidant properties of the drug helps in the reduction of oxidative stress, which will inhibit the pro-inflammatory cytokine release by decreasing IL-17, IL-22, and TNF – α. This will further result in the inhibition of T- cell activation and dendritic cell proliferation. Specifically, pretreatment with *Bakuchi* is mentioned for long-term therapeutic indications such as skin disorders, *Shvitra*, and *Rasayana*.<sup>16</sup> *Bakuchi Rasayana* enhances metabolic activities, facilitating proper biotransformation at the skin level, resulting in a significant reduction in disease symptoms and supporting the immune system.<sup>17</sup>

### Patient perspective

The improvement of quality of life of patient was noteworthy. Patient was comfortable by the overall improvement in the quality of skin and said his social interactions had improved considerably after the treatment. Another important change noted was the improvement of bowel movements.

### Conclusion

There are numerous treatment options for plaque psoriasis, but most of them lead to incomplete remission. *Sodhana* therapy aids in eliminating deeply entrenched morbid doshas and accomplishes cellular-level biopurification. The *Bakuchi rasayana* discussed here comprises a minimal number of ingredients and boasts ease of administration, promoting notable patient compliance. Further clinical and preclinical research is necessary to explore and validate the aforementioned claims. The combination of *sodhana* therapies followed by the administration of *Bakuchi rasayana* significantly contributed to the marked improvement of lesions and the patient's overall quality of life.

### Informed consent

Informed consent was obtained from the patient.

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