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Case Report

Management of Psoriasis through Unani Medicine: a Case Study

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ABSTRACT

Psoriasis is a chronic inflammatory skin disease clinically characterized by erythematous, sharply demarcated papules and rounded plaques covered by silvery white micaceous scales. It affects about 1-3% of the world's population. Although considerable advances have been made in the management of psoriasis in recent years, the disease remains incurable. Current treatment does not affect disease activity, and relapse occurs quickly after cessation of treatment. Moreover, topical and systemic conventional therapies used in the management of psoriasis are associated with adverse effects. In Unani system of medicine, psoriasis is known as *Taqashshur al-Jild*, which is caused by predominance of black bile and characterised by scaling of skin. Various topical as well as systemic Unani formulations are effectively used in the management of psoriasis. This case study was aimed to evaluate the efficacy of Unani formulations, *Itrīfal Shāhtra* and *Marham Ḥinā* in the management of psoriasis. A 49-year-old male patient presenting with psoriasis came to the OPD of National Research Institute of Unani Medicine for Skin Disorders, Hyderabad. Treatment was given to the patient for a period of 12 weeks. PASI score was significantly reduced from 40.5 at baseline to 2.2 after treatment. Unani formulations were found safe and effective in the management of Psoriasis as assessed by validated scales.

Keywords Psoriasis, *Taqashshur al-Jild*, Unani, *Itrīfal Shāhtra, Marham Ḥinā*, PASI

INTRODUCTION

The word Psoriasis is derived from the Greek word "psora", means "itch" or "psorin" means "to have itch" (Burge *et al.,* 2016). Psoriasis is a chronic inflammatory skin disease clinically characterized by erythematous, sharply demarcated papules and rounded plaques covered by dry, brittle, loosely adherent, silvery or greyish-white, micaceous scales (Sehgal, 2011). Histopathologically, there is dermal and epidermal inflammation, epidermal hyperkeratosis, hyperproliferation, and increased angiogenesis within the dermis (Rahman *et al.,* 2012; Peternel *et al.,* 2009). Robert William (1757-1812 AD) first recognized psoriasis as a specific clinical entity and was given the name psoriasis. It affects about 1-3% of the world's population (Sehgal, 2011). Its prevalence in countries ranges between 0.09% and 11.43% (Danielsen *et al.,* 2013; Gibbs, 1996), about 1.5%-3% in Caucasians (Nestle *et al.,* 2009) and 0.4%-2.8% in Indian population (DiPiro *et al.,* 2020). About 5-10% of individuals with psoriasis develop an inflammatory arthropathy. Clinical and epidemiological data accounted for about 2.3% of the total dermatological problem. It is twice more common in males compared to the female population (Nickoloff *et al.,* 1999). Twin's study shows a concordance rate of 60-75% and 15-20% for psoriasis in monozygotic and dizygotic twins, respectively (Nestle *et al.,* 2009). The basic pathophysiology behind the development of Psoriasis is T-cell activation, which migrated from lymph nodes and systemic circulation to the skin and causes the release of cytokines, that trigger cutaneous inflammation and hyperproliferation of the epidermis results in erythematous, raised plaques with overlying scale (DiPiro *et al.,* 2020; Nestle *et al.,* 2009; Nickoloff *et al.,* 1999).

Psoriasis is associated with a risk of systemic comorbidities, including psoriatic arthritis, metabolic syndrome (type 2 diabetes mellitus, abdominal obesity, dyslipidaemia, hypertension), atherosclerotic cardiovascular disease (CVD), non-alcoholic fat liver disease (NAFLD), non-Hodgkin lymphomas, colon cancer, chronic obstructive pulmonary disease (COPD), inflammatory bowel disease (ulcerative colitis and Crohn's disease), *anxiety, and* depression (Carvalho *et al.,* 2016; Sheu *et al.,* 2013; Gisondi *et al.,* 2009; Dreiher *et al.,* 2008;

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Gelfand *et al.*, 2006; Millard *et al.*, 2001; Buslau & Benotmane, 1999).

In conventional medicine, various topical as well as systemic treatments are available for the management of psoriasis. Topical agents such as topical corticosteroids, vitamin D analogs, tazarotene, calcineurin inhibitors, anthralin, etc. are used for mild to moderate psoriasis, whereas for severe psoriasis, topical therapies are used adjunctively with systemic agents (e.g. methotrexate, cyclosporine, and acitretin) and ultraviolet (UV) light therapy. Although these agents are effective in the treatment of psoriasis, their long-term use is associated with various cutaneous side effects including atrophy, purpura, striae distensiae, periorificial dermatitis; as well as systemic side effects, such as disturbance of the hypothalamic-pituitary axis, Cushing's syndrome, adrenal insufficiency, hyperlipidaemia, osteonecrosis of femoral head, bone marrow suppression, hepatotoxicity, nephrotoxicity, cataracts, glaucoma, etc. Psoriasis is a chronic disease, which requires long-term treatment; therefore, there is need to develop an effective therapy for psoriasis, which may be safely used for prolonged periods of time without adverse events (Menter *et al.*, 2009).

Psoriasis has not been described in the classical texts of Unani system of medicine, but on the basis of its clinical characteristics, including erythematous plaques with overlying micaceous scale, it can be correlated well with *Taqashshur al-Jild*, which is a condition described in Unani medicine, in which there is scaling of skin due to predominance of black bile (Majūsī, 2010; Baghdādī, 2005; Arzānī, 2001; Arzānī, 1993; Ibn Zuhr, 1986; Khān, 1289 AH). Ibn Zuhr and Ibn 'Abbās Majūsī clearly explained the pathogenesis of *Taqashshur al-Jild* (Psoriasis) based on *Naẓariyya-i-Akhlāṭ* (humoral theory). According to them, an excessive amount of *Sawdā' Ghalīẓ* (thick black bile) gets accumulated in the skin and hampers its nutrition and function, due to which skin becomes dead and fallout in the form of scales (Rāzī, 2005; Arzānī, 1993; Ibn Zuhr, 1986). In Unani system of medicine, *Uṣūl-i-Ilāj* (principles of treatment) of *Taqashshur al-Jild* (Psoriasis) is as follows:

- Evacuation of *Sawdā' Ghalīẓ* (thick black bile) through: *Faṣd* (Venesection), *Irsāl-i-'Alaq* (Leeching), *Ḥijāma* (Cupping), *Taṣfiya al-Dam* (purification of blood) and use of *Munḍij-i-Sawdā'* (concoctive of black bile) and *Mushil-i-Sawdā'* (purgative of black bile) Adviya (drugs)
- *Tarṭīb-i-Mizāj* (moistening of temperament) and *Tarṭīb-i-Badan* (moistening of body) through: *Ḥammām* (Bath), *Ghidhā'* (Diet) and Rest.
- Local application of drugs possessing *Murkhī* (Relaxant), *Jālī* (Detergent), *Muhallil* (Resolvent), *Mumallis* (emollient), *Dāfi'-i 'Ufūnat* (disinfectant), *Musakkin-i-Maqāmī* (local sedative), *Dāfi'-i Ḥikka* (Anti-pruritic), *Dāfi'-i-Waram* (Anti-inflammatory) properties in the form of *Marham* (Ointment) or *Raughan* (Oil) (Majūsī, 2010; Baghdādī, 2005; Ṭabarī, 1997; Rāzī, 1994; Rāzī, 1991; Khān, 1289 AH).

Majority of Unani clinicians emphasized topical application of *Mumallis* (emollient) over the affected part frequently in the form of *Marham* (Ointment) or *Raughan* (Oil). Moreover, they also advised to avoid the use of sour and sweet items in the diet (Baghdādī, 2005; Arzānī, 2001; Jīlānī, 1996; Āmlī, 1304 AH). Keeping the above facts in view, it was planned to use *Itrīfal Shāhtra* (oral) and *Marham Ḥinā* (topical) in the present case study.

MATERIALS AND METHODS

A 49-year-old male patient with psoriasis came to the Out-Patient Department (OPD) of National Research Institute of Unani Medicine for Skin Disorders (NRIUMSD), Hyderabad under CCRUM, Ministry of AYUSH, Government of India on 27th November, 2020, for Unani treatment, as he was not responding to conventional psoriasis treatment. He was treated with Unani medications comprising *Itrīfal Shāhtra* (Table 1) and *Marham Ḥinā* (Table 2) for 12 weeks. The response to therapy was evaluated on the basis of Psoriasis Area and Severity Index (PASI) score at each clinical visit, and photographs of the lesions, which were taken at baseline and after completion of treatment. Safety of the treatment was evaluated on the basis of clinical adverse effects, if any at each follow-up and laboratory investigations, which were performed at baseline and after 12 weeks of treatment.

CASE PRESENTATION

Chief Complaints

A 49-year-old male patient presented with complaints of red patches with itching and burning sensation all over the body for 10 years.

Medical History

According to the patient's statement, he was quite well 10 years back, then he noticed some small spots of dryness with itching and shedding of silvery white scales over the right leg, for which he took allopathic treatment comprising topical and oral steroids, as prescribed by a local dermatologist. Initially lesions and itching were responded well to the treatment, but lesions were relapsed after some time, for which he restared the the same medications, but found no relief and noticed new lesions on the other parts of the body, which progressed gradually to cover the whole body, except head, palms, and soles. Then, he took homoepathic treatment for one year, but condition was relapsed after initial improvement. There was no history of trauma, joint pain or stiffness, hypertention, diabetes mellitus, thyroid disorders, etc. There was no family history of psoriasis or arthritis. He was a non-smoker and non-alcoholic.

Clinical Examination

General Physical Examination

Patient was a well-nourished male with average built and wheatish color, who appeared anxious. There were no palpable lymph nodes, jaundice, pallor or oedema. His vital signs were within normal limits.

Vital Signs

- Temperature: afebrile
- Blood Pressure: 120/80 mmHg
- Pulse Rate: 74 beats per minute, regular
- Respiratory Rate: 18 breaths per minute

Systemic Examination

Chest

- Clear to auscultation bilaterally

CVS
- S1 & S2 audible
- no murmurs, no added heart sounds heard

Abdomen
- soft, non-tender, non-distended
- no organomegaly, normal bowel sounds

Neurological examination
- alert and co-operative, normal level of consciousness, no gait disturbance
- normal sensation and normal knee & ankle tendon reflexes, abdominal reflexes and plantar reflex

Musculoskeletal examination
- no joint swelling, no joint tenderness, no joint effusion
- no joint deformities, normal range of motion in all joints

Dermatological examination
- generalized, symmetrical, well-demarcated, medium to large erythematous plaques with silvery white scales were found over the abdomen, back, arms (*Figures 1a & 2a*) and legs.
- Auspitz sign (pinpoint bleeding within the lesion on the removal of psoriatic scale) was positive.
- PASI (Psoriasis Area and Severity Index) score was 40.5, revealing that erythema (redness), induration (thickness), and desquamation (scaling) were all severe, with involvement of about 90% body surface area (BSA)

Investigations
Laboratory investigations, including complete haemogram, liver function tests (LFTs), kidney function tests (KFTs), and complete urine examination were conducted at baseline and after 12 weeks of treatment.

Diagnosis
On the basis of medical history and clinical examination, patient was diagnosed as a case of psoriasis. Clinical features, including well-demarcated erythematous plaques with overlying silvery white scales, and Auspitz sign were present.

Interventions
The patient was treated with the following Unani medications started from 28th November, 2020 and stopped on 25th February, 2021. The duration of therapy was 12 weeks. The patient was also advised to avoid sour and sweet items in the diet during the entire period of treatment.

1. *Itrīfal Shāhtra* was given in the dose of 6 gm orally twice daily before meals
2. *Marham Ḥinā* was advised to apply topically over the affected parts twice daily

Table 1. Composition of Itrīfal Shāhtra (Khān, 2005)

S. No	Plant Drug	Botanical/ Scientific Name	Part Used	Quantity
1.	Sana Makki	*Cassia angustifolia* Vahl.	Leaves	63.75 g
2.	Post Halela Zard	*Terminalia chebula* Retz.	Fruits	63.75 g
3.	Post Halela Siyah	*Terminalia chebula* Retz.	Fruits	42.50 g
4.	Amla	*Emblica officinalis* Gaertn.	Fruits	42.50 g
5.	Shahtra	*Fumaria officinalis* Linn.	Whole plant	42.50 g
6.	Revand Chini	*Rheum emodi* Wall. ex Meissn.	Roots	21.25 g
7.	Raughan-i-Badam Shirin	*Prunus amygdalus* Batsch var. sativa	Kernel Oil	100 g
8.	Shahed Khalis	*Apis mellifera*	Pure Honey	830 g

Table 2. Composition of Marham Ḥinā (Anonymous, 2011)

S. No.	Plant Drug	Botanical/ Scientific Name	Part Used	Quantity
1.	Raughan-i-Hina	*Lawsonia inermis* Linn.	Oil	15 liter
2.	Kafur Khalis	*Cinnamomum camphora* (Linn.) Nees & Eberm.	Camphor	1.5 kg
3.	Sat-i-Pudina	*Mentha arvensis* Linn.	Dried Extract	0.7 kg
4.	Sate-i-Ajwayin	*Trachyspermum ammi* (Linn.) Sprague.	Dried Extract	0.7 kg
5.	Mom Khalis	*Apis mellifera*	Pure Wax	7.0 kg
6.	Vaseline Safaid	White petrolatum	Petroleum Jelly	3.0 kg

Consent
Written informed consent was obtained from the patient, and clinical data included in this case study were collected in compliance with the Declaration of Helsinki (2013).

Outcome Measures
The response to therapy was evaluated by Psoriasis Area and Severity Index (PASI) score (Burge *et al.*, 2016; Valia & Valia, 2010) performed at 0, 4, 8, and 12 weeks of treatment, and photographs of the lesions were taken at baseline and after completion of treatment. PASI is currently the gold standard tool to assess the severity of psoriasis and the effect of therapy in clinical research. It is based on the clinical features, including erythema (redness), induration (thickness), desquamation (scaling), and affected body surface area (BSA). PASI scores range from 0-72, with lower scores indicating less severe symptoms and a smaller area of involvement. Safety of the treatment was evaluated by observing adverse events at each follow-up, and conducting laboratory investigations at baseline and after 12 weeks of treatment.

RESULTS

The patient showed significant improvement in his symptoms with Unani treatment comprising Itrīfal Shāhtra (oral) and Marham Ḥinā (topical). All the signs & symptoms of psoriasis, including itching, red patches all over the body, and scaling of skin were almost completely disappeared after 12 weeks of therapy (Figures 1b & 2b), which resulted in a significant (94.57%) decrease in PASI score. At baseline, i.e., before commencing the treatment, PASI score was 40.5 (with involvement of about 90% BSA), and it was reduced to 27 at week 4, later it reduced to 10 at week 8 and finally, it became 2.2 at week 12, which showed an extremely significant improvement. Thus, PASI score was reduced from 40.5 at baseline to 2.2 after treatment, and the patient achieved 94.57%

reduction in his PASI score from baseline after 12 weeks of Unani treatment (Table 3).

No any clinical adverse effects were reported, and values of all haematological and biochemical safety parameters conducted at baseline and after 12 weeks of treatment were within the normal range (Table 4). The patient did not relapse of disease, and he had no recurrence of previous patches, and also no new patches were developed on the body during the 8-week post-treatment follow-up period.

Table 3. Improvement in PASI Score

Visit	PASI Score	Percentage Reduction in PASI Score (%)
Baseline (0 day)	40.5	00.00
1st Follow-up (4 week)	27.0	33.33
2nd Follow-up (8 week)	10.0	75.31
Last Follow-up (12 week)	2.2	94.57

Table 4. Haematological & Biochemical Safety Parameters

S. No.	Parameters		Baseline (at 0 Week)	After Treatment (at 12 Week)
1.	Hb (g/dL)		14	14.3
2.	RBC Count (million/cumm)		5.1	5.13
	Platelet Count (lakh/cumm)		2.06	2.2
3.	TLC (cells/cumm)		7400	6200
4.	DLC (%)	Neutrophils	52	46
		Lymphocytes	41	42
		Eosinophils	3	6
		Monocytes	4	6
		Basophils	0	0
5.	ESR (mm)	1st Hour	22	9
		2nd Hour	45	20
6.	Serum Bilirubin (mg/dL)		0.49	0.46
7.	SGOT (IU/L)		25	20
8.	SGPT (IU/L)		26	18
9.	S. Alkaline Phosphatase (IU/L)		72	66
10.	Serum Creatinine (mg/dL)		1.1	0.9
11.	Blood Urea Nitrogen (mg/dL)		22	14
12.	Fasting Plasma Glucose (mg/dL)		90	89
13.	Urine Examination		NAD	NAD

NAD = No Abnormality Detected

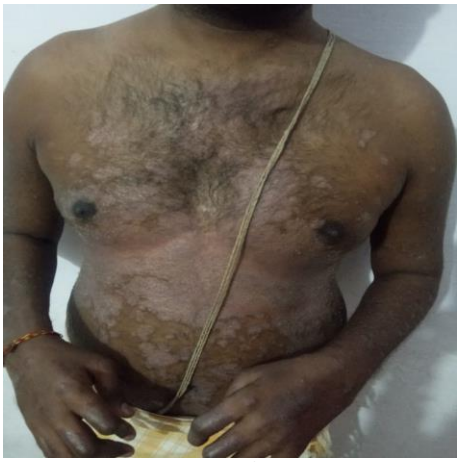

Fig. 1a. Psoriasis Lesions before Treatment

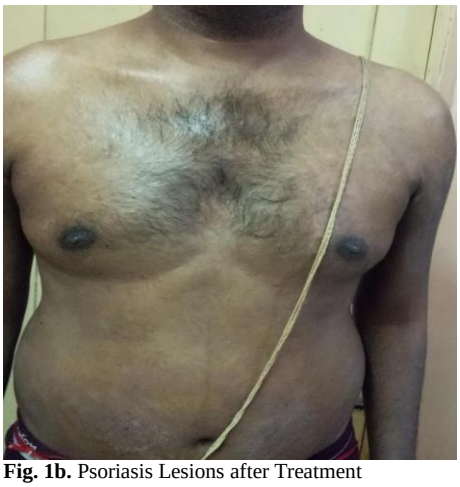

Fig. 1b. Psoriasis Lesions after Treatment

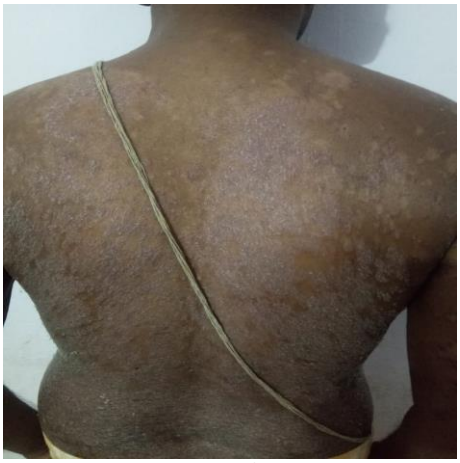

Fig. 2a. Psoriasis Lesions before Treatment

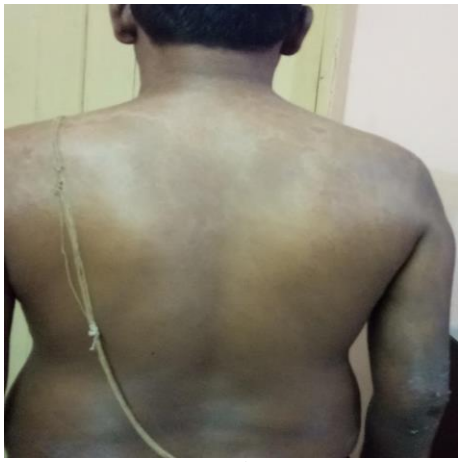

Fig. 2b. Psoriasis Lesions after Treatment

DISCUSSION

Psoriasis (*Taqashshur al-Jild*) is a common chronic recurrent inflammatory disease with a worldwide distribution, which can be disabling, not only because of skin involvement, but also because of other co-morbidities. Although considerable advances have been made in the management of psoriasis in recent years, no simple, safe and effective treatment is available. Current treatments do not affect disease activity; active disease is difficult to clear, and relapse occurs quickly after cessation of treatment. Moreover, conventional therapies used in the management of psoriasis, including topical agents (e.g. corticosteroids, calcineurin inhibitors, anthralin, etc.), and systemic agents (e.g. methotrexate, cyclosporine, acitretin, etc.) are associated with adverse effects like nausea, hyperpigmentation, pruritus, skin carcinoma, phototoxicity, hepatotoxicity and also worsening of disease (Papadakis *et al*., 2019; Ali *et al.,* 2015). Psoriasis is a chronic disease, which requires long-term treatment; therefore, there is need to develop an effective therapy for psoriasis, which may safely be used for prolonged periods of time without adverse effects (Ali *et al.,* 2015).

In the Unani System of Medicine, the use of drugs that purify the blood and normalize skin metabolism by strengthening its faculties is the mainstay of treatment for psoriasis. In psoriasis, the primary goal of therapy is to relieve the discomfort associated with the signs and symptoms of the disease. Since the skin lesions in psoriasis are dry and itchy, most treatments involve the frequent use of skin moisturizers, such as lotions, creams, ointments, and oils to keep the skin as moist as possible (Qarshī, 2011).

Unani formulations, including *Itrīfal Shāhtra* and *Marham Ḥinā* used in this case study showed significant improvement in the signs and symptoms of psoriasis, as PASI score was reduced from 40.5 at baseline to 2.2 after 12 weeks of treatment. The results showing the efficacy of these formulations in the present study may be attributed to *Muṣaffī-i-Dam* (blood purifier), *Munḍij-i-Sawdā'* (concoctive of black bile), and *Mushil-i-Sawdā'* (purgative of black bile) properties of *Itrīfal Shāhtra*, and *Mumallis* (emollient), *Dāfi'-i 'Ufūnat* (disinfectant), *Musakkin-i-Maqāmī* (local sedative), *Dāfi'-i Ḥikka* (Anti-pruritic), and *Dāfi'-i-Waram* (Anti-inflammatory) properties of *Marham Ḥinā* as described in the classical texts of Unani Medicine (Anonymous, 2011; Khān, 2005). Moreover, these Unani formulations were found to be safe and well-tolerated during the study, as haematological and biochemical safety parameters were remained within normal limits, and no any clinical adverse effects were observed after 12 weeks of treatment. In summary, findings from the present case study suggest that *Itrīfal Shāhtra* and *Marham Ḥinā* may provide the safe and effective alternative treatment for psoriasis.

CONCLUSION

In conclusion, the results of the present case study suggest that *Itrīfal Shāhtra* and *Marham Ḥinā* may be effective, safe and well-tolerated Unani medications in the management of psoriasis, as they significantly reduced PASI score over 12 weeks. These therapeutic results may probably be attributed to concoctive & purgative of black bile, and blood purifier properties of *Itrīfal Shāhtra*, and emollient, disinfectant, local sedative, anti-pruritic, and anti-inflammatory properties of *Marham Ḥinā*. Since, it was a single case study, clinical study with larger sample size and longer duration of therapy may be conducted in future, to reinforce the scientific evidence.

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CONFLICT OF INTEREST

Authors declared no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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