

## Case Report

# Clinical efficacy of Unani formulations in psoriasis (Da-us-Sadaf): a case report

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**Received:** 04 September 2020

**Accepted:** 09 October 2020

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### ABSTRACT

A seven-year-old male child suffering from multiple patches over the scalp with severe burning, pain, and scaly skin, came for treatment in government Unani dispensary, Majajpur, Bharatpur, Rajasthan, India. The patient has lesions and erythema with some papules over the nape of the neck. After the proper history, physical examination, positive auspitz sign, candle grease sign and grattage test he was diagnosed as a patient of scalp psoriasis. The patient was treated with Unani drugs; sharbat murakkab musaffi khoon, arq shahatra and marham safed kafoori to evaluate the efficacy of drugs and to avoid any side effects and recurrence of the disease. The patient showed excellent and admirable results within 90 days of treatment and marked remission was found in all features without any side effect, recurrence and complications.

**Keywords:** Psoriasis, Da-us-Sadaf, Unani formulations, Blood purifiers, Emollients

### INTRODUCTION

Psoriasis is a common, chronic and recurrent inflammatory disease of the skin characterized by circumscribed, erythematous, dry scaly plaques of various sizes. The lesions are usually covered by lamellar scales. The lesions have a predilection for the scalp, nails, extensor surfaces of limbs, umbilical regions and sacrum. The eruptions are usually symmetrical. It usually develops slowly but may be exanthematous, with the sudden onset in numerous guttate (drop like) lesions. Subjective symptoms such as itching or burning may be present and may cause extreme discomfort. Scales are looser towards the periphery and adherent centrally. Although plaques typically predominate but lesions may be annular or polycyclic.<sup>1</sup> Psoriasis affects 1.5-2% of the population in western countries. Peak incidence occurs at 22.5 years of age and the mean age of onset in children is 8 years. Late onset presents at about 55 years. Early onset predicts the most severe and long-lasting disease, and there is usually a positive family history of psoriasis.<sup>2</sup>

The precise cause of psoriasis is still unknown. However, there is often a genetic predisposition and sometimes, an obvious environmental trigger. There are two key abnormalities in a psoriatic plaque: hyperproliferation of the keratinocytes; and an inflammatory cell infiltrates in which neutrophils and TH-1 type T lymphocytes predominate. The increased epidermal proliferation of psoriasis is caused by an excessive number of germinative cells entering the cell cycle rather than by a decrease in cell cycle time. The epidermal turnover time is greatly shortened, to less than 10 days as compared with 60 days of normal skin. This epidermal hyperproliferation accounts for many of the metabolic abnormalities associated with psoriasis.<sup>3</sup> Trigger factors include physical trauma (rubbing and scratching) is a major factor in eliciting lesions. Acute streptococcal infection precipitates guttate psoriasis. Stress is a factor in flares of psoriasis and is said to be as high as 40% in adults. Systemic glucocorticoids, oral lithium, antimalarials drugs, interferons and  $\beta$ -adrenergic blockers can cause flares and cause a psoriasiform drug eruption. Alcohol ingestion is a putative trigger factor.<sup>2</sup> The

commonest form of psoriasis is called psoriasis vulgaris. The primary lesion in psoriasis is a mildly itchy papule or plaque that is well demarcated, indurated and erythematous (deep pink to red; the plaque is often surrounded by a ring of Woronoff). Lesions are surmounted with silvery white, loose, lamellar scales; scales are accentuated by grating with a glass slide. Scaling is minimal in early lesions and rupioid psoriasis. The size and number of lesions are variable. In scalp psoriasis, the plaques are scaly sharply defined and indurated. Scaling may be massive, especially on the occiput. Sometimes, the scaling is asbestos like being firmly adherent to the scalp.<sup>4</sup> In children, hairline and occipital scalp are the first sites of involvement of the disease. In the juvenile period, plaques become erythematous with silvery scales that are finer than in adults and localized to the elbows, knees, scalp and post auricular region.<sup>5</sup>

In classical Unani literature, no disease has been mentioned with the name of Da-us-Sadaf or psoriasis. Though Unani physicians have been described skin ailments characterized by dryness of skin and scale formation, which clinically resembles psoriasis. According to Ali Ibn-e-Abbas Majoosi, taqashur-e-jild means scaling of the skin, that when balgham-e-mirary (bilious) and phlegm, mixed with blood then the tabia't (physis) of the body, expels that khilt-e-ghaleez (viscous humor) towards the skin from the internal organs and accumulates within the skin resulting in the scaling of the skin and intense itching.<sup>6</sup> The recommended basic line of treatment for psoriasis in Unani medicine are concoction and expulsion of abnormal humor especially sauda (melancholic humor) along with tahleel-e-auram (resolution), tasfeeh-e-dam (blood purification), indimal-e-zakhm (cicatrization), taskeen-e-jild (demulsification), tarteeb-e-umomi wa muqami (general and local moisturization) and topical application of jali (detergent), murakhi (emollients) drugs.<sup>7,8</sup>

## CASE REPORT

A 7 years old boy accompanied by his parents visited government Unani dispensary, Majajpur, Bharatpur, Rajasthan for treatment. In 2019 he noticed small red round patches over the scalp associated with itching. He consulted an allopathic physician and took the prescribed medicines but the condition of the patient worsened and lesions spread all over the scalp. Now the patient complains of multiple lesions all over the scalp with intense pain and burning sensations. Dry brittle silvery scales were found all over the plaques with mild erythema which shed off while rubbing after itching (Figure 1 A, B and C). The condition of the patient worsens in the winter season and there was no positive family history of psoriasis. Diagnosis of scalp psoriasis was made after proper history, physical examination, signs and symptoms, grattage test, positive auspitz sign and candle grease sign. His parents gave consent to start Unani treatment.



**Figure 1 (A-C): Pre-treatment.**

The patient was advised to take 10 ml of sharbat murakkab musaffi khoon and 25 ml of arq shahatra with plain water twice a day at morning and evening on empty stomach orally and to apply marham safed kafoori on affected lesions over the scalp. Sharbat urakkab musaffi khoon and arq shahatra are pharmacopeial, marketed by GMP certified company dehli amber herbals pvt. ltd. and prepared according to bayaz-e-kabeer volume 2, while marham safed kafoori is a patent Unani drug prepared by ayurved rasayanshala Ajmer, government of Rajasthan. The duration of the study was 90 days and no adjuvant therapy was allowed during the treatment.

The constituents of sharbat murakkab musaffi khoon (each 50 ml) are an aqueous extract from chob chini (*Smilax china*, Rt., Dct.) 1.25 gm, barge sheesham (*Dalbergia sissoo*, Lf., Dct.) 1.25 gm, barge sana makki (*Cassia angustifolia*, Lf., Dct.) 1.25 gm, unnab (*Zizyphus jujuba*, Fr., Dct.) 2.08 gm, post halela zard (*Terminalia chebula*, yellow P., Dct.) 2.08 gm, post halela kabuli (*Terminalia chebula*, brown, Fr., Dct.) 2.08 gm, turnajabeen (*Alhaji pseudalhagi*, Exd., Pdr.) 16.66 gm, sheer khist (*Fraxinus ornus routindifolia*, Exd., Pdr.) 16.66 gm, sugar 16.66 gm, sodium benzoate as preservative.<sup>9</sup>

The ingredient of arq shahatra (each 125 ml) is aqueous distillate from barg-e-shahatra (*Fumaria officinalis*) 15.60 gm.<sup>9</sup>

The ingredients of marham safed kafoori (per 30 gm) are; zinc oxide 1.8 gm, kaphoor (camphor) 1.8 gm, mom desi (beeswax) 7.8 gm, roghan-e-kunjad (sesame oil) 15.3 gm, gul-e-surkh (*Rosa damascena* flower) 3.3 gm.<sup>10</sup>

## RESULTS

After 90 days of treatment, the efficacy of Unani compound formulations was evaluated, which was found to be quite excellent in the management of scalp psoriasis. All the lesions over the scalp was almost reduced with the complete disappearance of papules, erythema, and scales. There is complete relief in the symptoms of pain, itching and burning sensations over the affected parts and the quality of life of the patient was also improved (Figure 2 A-C). The patient was further under observation for three months and it was observed that neither there was relapsing eruptions nor flare-up of residue lesions.



Figure 2 (A-C): Post treatment of 90 days.

## DISCUSSION

The present case report substantiates the effectiveness of prescribed Unani formulations in the management of scalp psoriasis, which is mainly due to the blood purifier, anti-inflammatory, demulcent, antibacterial, moisturizing, pain sedative, wound healer and emollient properties present in their ingredients.

Sharbat murakkab musaffi khoon is beneficial in ulcers, wound healing, itching, abscess and syphilis.<sup>9,11</sup> Rhizome of chob chini (*Smilax china*) is used which has mulattif (demulcent), mushil-e-sauda (black bile purgative), mussafi-e-dum (blood purifier), muhallil-e-warm (anti-inflammatory), naf-e-hikka (relieves itching), naf-e-qaroooh-e-muzmin (useful in chronic ulcers) properties.<sup>12-14</sup> It is reported that the methanolic extract and ethyl acetate fraction of *Smilax china* Linn. rhizome was evaluated for the antipsoriatic activity in Swiss albino mice tail test. The parameters studied in the mouse tail test was the percentage of orthokeratotic values. At the end of the study, it was found that the ethyl acetate fraction of *Smilax china* rhizome showed good activity in the mouse tail test, antiproliferant activity and nitric oxide inhibition assay suggesting the plant *Smilax china* rhizome possesses antipsoriatic activity.<sup>15</sup> In vitro antipsoriatic activity by the cytotoxic effect of methanol extract and ethyl acetate fraction was evaluated using HaCaT cells, a rapidly multiplying human keratinocyte cell line, as a model of epidermal hyperproliferation in psoriasis.<sup>16-19</sup> The methanol extract and ethyl acetate fraction both showed appreciable antiproliferant activity in HaCaT cell line. The ethyl acetate fraction (IC<sub>50</sub> value of 68.75±14.80 µg/ml) was found to have more potent antiproliferant activity than methanol extract (IC<sub>50</sub> value of 102.5±10 µg/ml). The results were validated using asiaticoside as a positive control. Asiaticoside showed potent activity with an IC<sub>50</sub> value of 31.40 µg/ml.<sup>15</sup> Several lines of studies indicated that flavonoids such as quercetin possess anti-oxidant and free radical scavenging potential, anti-inflammatory activity and inhibit the growth of various cancer cell lines in vitro.<sup>20</sup> The phytochemical data showed the presence of an increased amount of flavonoid content and it is suggested that the presence of flavonoids might be responsible for the antipsoriatic activity presumably through the anti-radical, anti-inflammatory and antiproliferative properties.<sup>15</sup>

Unnab (*Zizyphus jujuba*) is musaffi-e-khooon (blood purifier), dafae sual (antitussive), musakkin-e-hiddat-e-khooon (suppress blood heat), nafe amraze-e-jild wa fasade-khooon (skin diseases and blood purification), muzij-e-akhlat-e-ghalizah (concoctives of viscous humor), mukhaddir (anaesthetic), daf-e-hikka (antipruritic), mundamil-e-qaroooh (cicatrizant).<sup>9,21,22</sup> Important chemical constituents found in unnab are alkaloids e.g. cyclic peptides, cyclopeptide, glycosides, acylated flavone-C, saponins, terpenoids, triterpene esters, phenolic compounds, flavonoid compounds.<sup>23-25</sup> In a comparative study of antioxidant components and antioxidant activity of the raw and cooked peel of *Zizyphus jujube* the peel was analysed for polyphenols, glutathione and tannin contents. Besides methanol and aqueous extract were analysed for flavonoid, saponin contents and antioxidant potential. It was observed that antioxidant activities of all the extract increased with increasing concentrations except in hydroalcoholic extract of the raw peel. Moreover, in the raw peel,

methanolic extract with higher antioxidant capacity revealed the same antioxidant activity as compared to the standard of butylated hydroxytoluene. Data confirmed the raw and cooked peel of *Zizyphus jujube* both have great potential for utilization as a source of natural antioxidants.<sup>26</sup>

Barge shesham, barge sana makki possesses blood purifying activity as they remove toxins and waste products from the blood and affected organs.<sup>13</sup> Turanjabeen has laxative, styptic and siccativ properties.<sup>12,13</sup>

Arq shahatra is beneficial as it normalizes the increased heat of the blood and it is useful to cure wounds and boils.<sup>11</sup> Shahatra possesses blood purifier, diuretic and antipyretic properties.<sup>12,13</sup> Traditionally, the juices of *Fumaria officinalis*, after undergoing evaporation process, could be used to treat chronic eczema, dermatological problems and cutaneous eruptions. The isoquinoline in *Fumaria officinalis* mostly has shown biological activity. The fumaric acid esters have been used as an action for psoriasis for nearly 30 years. Monoethyl fumarate is the most active metabolite in a German antipsoriatic drug, Fumaderm. A study by Preininger et al and Dugler et al reported a significant bactericidal activity against the Gram-positive organisms like *Staphylococcus* and *Bacillus anthracis*.<sup>27</sup>

Marham safed kafoori resolves the inflammation and removes the dead tissue and debris. It cleans and heals the wound faster.<sup>10</sup> Zinc has anti-inflammatory properties and increases re-epithelialization supporting its use for treating eczemas. Topical zinc oxide for its strong antioxidant and antibacterial action has been also used in treating atopic dermatitis.<sup>28</sup> *Cinnamomum camphora* has been described as an anti-inflammatory, antiseptic, sedative, diaphoretic properties on external use.<sup>29</sup> Allama Najmul ghani has mentioned in his famous book *Khazinatul advia* that kafoor possesses many pharmacological activities like antipruritic to vesicle pruritis and burning due to its cold property, aphrodisiac in small dose but in large and repetitive doses, anti-inflammatory, antiallergic, anticonvulsant.<sup>21</sup> It was observed in the finding of a clinical study that oral UNIM-401 (oral Unani formulation) and topical UNIM-403 (*A. indica* and *Cinnamomum camphora*) were effective and well tolerated therapeutic options in patients with moderate to severe CPP (chronic plaque psoriasis).<sup>30</sup> Sesame (*Sesamum indicum*) has anti-inflammatory and musakkin-e-auja (pain sedative) properties. Sesame oil is mildly laxative, emollient and demulcent. The oil has been used for healing wounds. It is naturally antibacterial for common skin pathogens such as staphylococcus as well as common skin fungi. It is antiviral and anti-inflammatory. Sesame oil absorbs quickly and penetrates through the tissues and keeps the skin supple and soft. It heals and protects areas of mild scrapes, cut, abrasions and nourishes and feeds the scalp to control dry scalp and dandruff.<sup>31</sup> Mom (beeswax) has

muhallil-e-waram (anti-inflammatory), musakkin-e-auja (pain sedative), mundamil-e-qurooh (wound healer), and munbit-e-laham (muscle fibre grower) and dafey-e-hikka (antipruritic) properties. The effect of mom zard can be attributed to the presence of palmitate, palmitoleate, oleate esters and triacontanyl palmitate to cerotic acid.<sup>32</sup>

## CONCLUSION

It can be concluded that the Unani treatment of scalp psoriasis with sharbat murakkab musaffi khoon, arq shahatra and marham safed kafoori is found to be highly effective. It has also been observed that there was no side effect during the treatment. The affordability, availability and side effects of prolonged use of allopathic drugs remain a challenge and concern. The discovery of safer and more effective anti-psoriatic drugs remains an area of active research at present. There is no satisfactory treatment available for psoriasis in the conventional medical system, so it is better to advise for Unani interventions to prevent further exacerbations of the condition and decreasing the frequency of the recurrence and its complications. Further research with a large sample size and multidisciplinary approach is needed.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

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**Cite this article as:** Tariq SSH. Clinical efficacy of Unani formulations in psoriasis (Da-us-Sadaf): a case report. *Int J Res Dermatol* 2020;6:804-8.