Clinical and Histopathological Evaluation of the Effects of *Psoralia corylifolia* Linn. Seeds and Marham-e-Gulabi in *Da-us-Sadaf* (Psoriasis)

A Case Study

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Da-us-Sadaf (Psoriasis) is a common chronic, recurrent, immune mediated disease of the skin characterized by dryness, scaling and plaques. It is considered to be an autoimmune disease, caused by *Sauda-e-Mohtaraq* (burnt melancholic humor) and *Merah-e-Sauda* (burnt bile mixed with melancholic humor). Psoriatic patients face many social and psychological problems because of its visibility, persistency and difficulty of being treat. Present paper deals with a report of a case study evaluating the efficacy of *Psoralia corylifolia* Linn. seeds as oral administration and Marham-e-Gulabi (non-pharmacopoeial Unani formulation) as topical agent in psoriasis, both clinically as well as histopathologically. It is concluded that the test drugs found to be safe, non toxic and highly effective for psoriasis.

Keywords: *Da-us-sadaf*, Psoriasis, *Psoralia corylifolia*, Marham-e-Gulabi Anti-inflammatory, Anti-psoriatic activity.

Introduction

Psoriasis is a papulosquamous disease of skin with variable morphology, distribution, severity, and course.[1] Its estimated prevalence is 0.44 to 2.8% of population in India and 1.5% to 3% of population in abroad.[2, 3] It occurs in both sexes equally but female becomes predominance in younger age group.[4] While it is twice more common in males compared to females in India.[2]

In Unani Medicine psoriasis termed as *Da-us-Sadaf*, is a common skin disorder characterized by dryness, plaques and scales just like the oyster shell.[5, 6] It is caused by *Sauda-e-Mohtaraq* (burnt melancholic humor) and *Merah-e-Sauda* (burnt bile mixed with melancholic humor) having an irritant nature that destroy the skin and produce intense itching, roughness and scaling.[6-8] It is aggravated by indigestion, uncleanness**;** diet (cold and dry and salty diet).[9-11]

In psoriasis the epidermal keratinocyte and T-cell cytokine mediated interleukins contribute to the dual pathological features of epidermal hyper proliferation and cutaneous inflammation.[12]

The exact cause is still unknown, but it is considered to be an autoimmune disease.[13] There are some precipitating factors such as red meat, low calcium and high iodine diet; mental stress, trauma, infections, sunlight, puberty, pregnancy, drugs (anti-malarial, β-blockers, anti-malignant, immuno-suppressive, NSAID), low humidity and cold weather.[3-4, 14]

Most common clinical type is the chronic plaque psoriasis, detected as well defined itchy erythematous plaques with silvery or micaceous scales and symmetrical distribution.[15] Candle grease like scale can be repeatedly produce on scratching the psoriatic lesion (Candle grease sign).[1] Pin point bleeding on removal of scales (Auspitz sign).[13]

In Unani system of medicine the recommended lines of treatment to control psoriasis are: *Nuzujwa Tanqiyah-e-Akhlat-e-Ghair Tabayiah* (Concoction and expulsion of abnormal humor) specially *Sauda* (Melancholic humor) along with *Tahleel-e-auram* (Resolution), *Tasfeeh-e-dam* (Blood purification), *Jali* (Detergent), *Indimal-e-zakhm* (Cicatrization), *Tarteeb-e-umoomi wa muqami* (general and local moisturization).[6, 16-17]

Tukhm-e-Babchi (*Psoralia corylifolia* Linn. seeds) are odorless but on chewing they emit a pungent odor and have a bitter unpleasant acrid taste.[20] They are hot and dry in nature.[21] Psoralen and isopsoralen are considered therapeutically active constituents of the seeds[20] and recommended in the treatment of leucoderma, leprosy, psoriasis and other inflammatory diseases of the skin.[18-19]

Marham-e-Gulabi is a non-pharmacopoeial Unani formulation of Ajmal Khan Tibbiya College Hospital (AKTCH), Aligarh Muslim University, Aligarh, India. It is claimed to be beneficial in psoriasis as a Nafe-e-busoorwa Qurooh.[20] Keeping aforementioned uses an attempt has been made to study the clinical and histopathological significance of these drugs in psoriatic patients.

Case Study

To evaluate the efficacy of *Psoralia corylifolia* Linn. seeds and

Marham-e-Gulabiin *Da-us-Sadaf* (psoriasis) clinically and histopathologically, the study was conducted on two psoriatic patients selected from OPD of AKTCH in 2005.

A 25 years old female with psoriasis visited to Hospital for treatment. She suffered from erythematous, proliferative skin lesions all over body particularly at legs, elbows, abdomen, back and trunk associated with mild silvery scaling and intense itching followed by pin point bleeding since last 10 years [Fig. 1(a)]. Those complications aggravated mainly in low humidity and cold weather. She had no history of relapse and remission. She had no family history. Firstly Psoriatic lesions began on scalp as tiny patches which were itchier but there was no hair loss.
Another 23 years aged female patient of psoriasis came to Hospital for the treatment. She affected from red, skin lesions associated with less scaling and severe itching followed by mild pin point bleeding all over body specially at extensor surface except face since last 5 years. [Fig. 2(a)]. She had no relapse and no family history of psoriasis. In both psoriatic cases the diagnosis confirmed by histopathology.

The micro fine powder (*Safoof*) of Babchi seeds, obtained from Dawakhana Tibbiya College, Aligarh Muslim University, Aligarh was

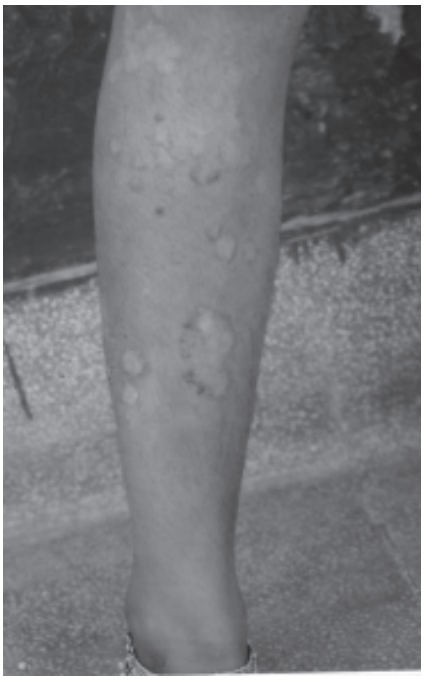

Fig. 1(a)

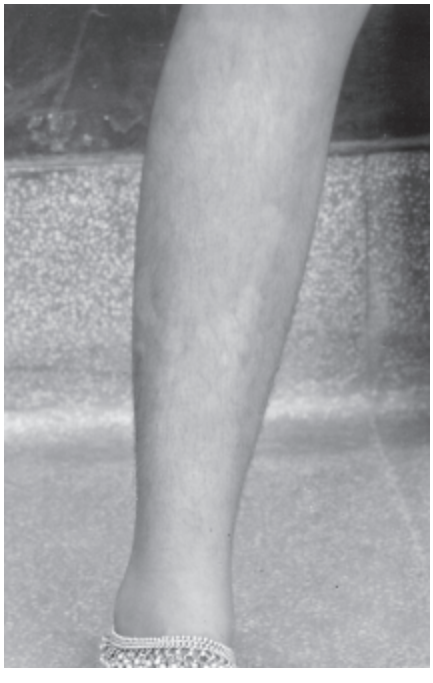

Fig. 1(b)

prepared and Marham-e-Gulabi (Table 1) obtained from Ajmal Khan Tibbiya College Hospital dispensary.

TABLE 1
Ingredients of Marham-e-Gulabi per 20 g

Name of ingredients	Quantity (g)
Sendoor (Plumbum)	0.09
Mom (Bee's wax)	1.82
Boric Acid (Boracic acid)	9.00
Carbolic Acid (Phenol)	0.09
Roghan-e-Narjeel (Coconut Oil)	9.00

The patients were advised to take 6 gm. of Safoof-e-Babchi twice/day in the form of a *zulal* (infusion) on empty stomach and apply the Marham-e-Gulabi on the lesions once a day.[20-21]

The patients were followed for a period of 45 days with clinical assessment (itching, scaling, erythema and epidermal thickening) performed at every 15th days and photographed and histopathology was conducted at the beginning and end of the study. Liver function tests (LFTs), renal function tests (RFTs), and haemograms were also performed at the beginning and end of the study for safety assessment.

Results and Observations

Vital signs and blood examinations (LFT, RFT, and haemogram) monitored during the study period. There were no significant changes in the various safety parameters assayed over the study period in both psoriatic patients. This clearly suggests that *Psoralia corylifolia* Linn. seeds are non-toxic to the liver, kidneys, or haemopoietic system.

The clinical improved response in these cases was significant. Complete resolution of the lesions and marked reduction in itching, scaling, erythema, epidermal thickening and Auspitz sign were observed at the end of study [Fig. 1(b) and Fig. 2(b)].

Skin biopsies were taken at the edge of a lesion at the beginning and end of treatment. Histopathological findings before treatment were observed as: 1) Marked hyperkeratosis and parakeratosis. 2) Acanthosis of epidermis with fusion and elongation of rete ridges. 3) Munro's

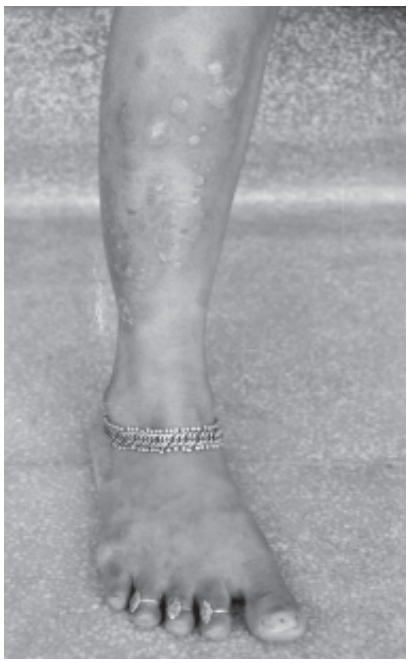

Fig. 2(a)

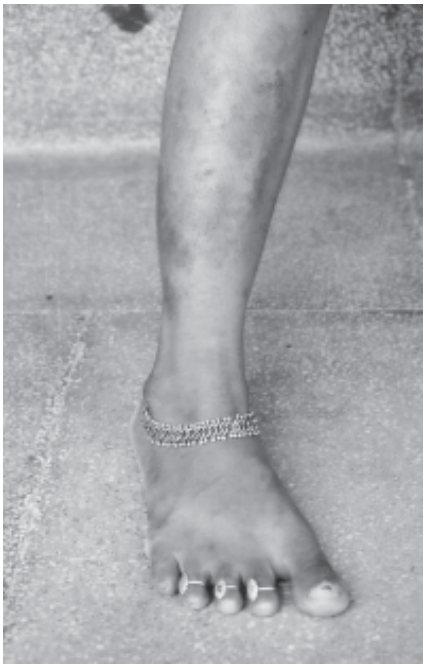

Fig. 2(b)

microabscessare noted in the stratum corneum. 4) A patchy perivascular infiltration of inflammatory cells localized to the superficial dermis [Fig .3(a) and Fig. 4(a)]. Impression was psoriasis.

After 45 days of treatment with the test drugs the histopathological findings were: 1) Mild hyperkeratosis and parakeratosis. 2) Mild acanthosis of epidermis with no rete ridges. 3) Munro's microabscessare absent. 4) Mild infiltration of chronic non specific inflammatory cells in superficial dermis [Fig. 3(b) and Fig. 4(b)]. Impression was nearly normal histological features with mild sub epidermal edema i.e., Dermatitis (non specific).

Discussion

The above observations demonstrated the efficacy of *Psoralia corylifolia* Linn. seeds and Marham-e-Gulabi in the signs and symptoms of psoriasis.

The exact mechanism of action of *Psoralia corylifolia* Linn. seeds and Marham-e-Gulabi in psoriasis is unknown. However, it may be due to the anti-pruritic activity of babchi, mom, carbolic acid, roghan-e-narjeel in reducing itching and also blood purifying property of babchi.[19, 21-23]

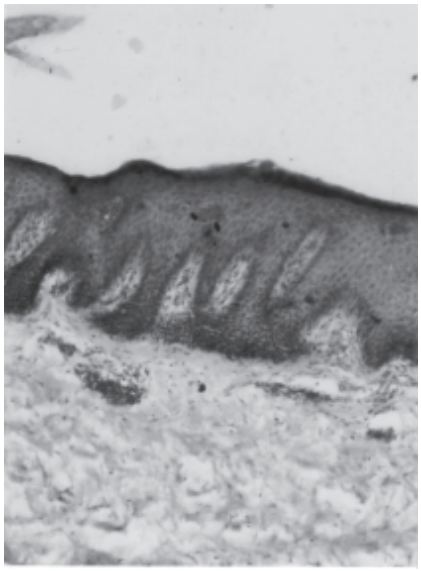

Fig. 3(a)

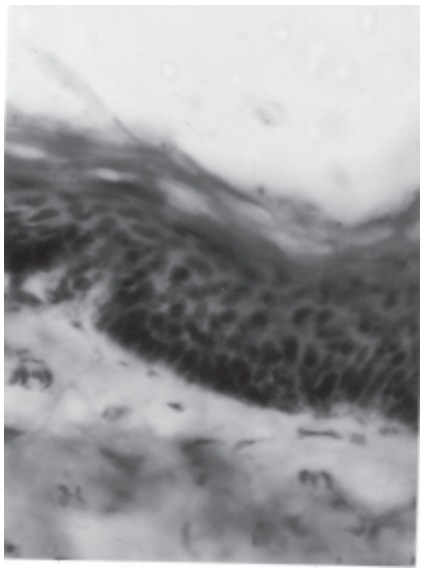

Fig. 3(b)

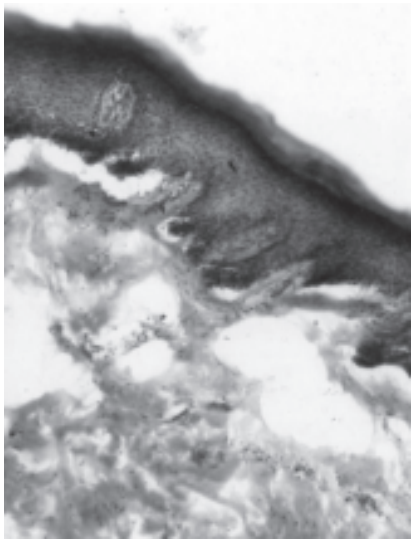

Fig. 4(a)

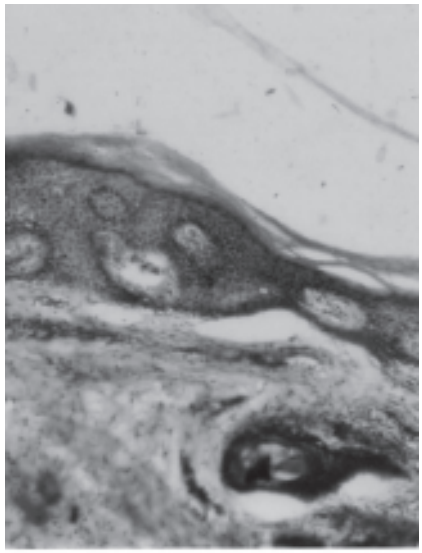

Fig. 4(b)

Disappearance of scaling may possibly be due to anti-sauda property of babchi along with detergent properties of babchi and sendoor, and moisturizing property of roghan-e-narjeel.[19, 21, 23, 24]

The effect of drugs on erythema is more likely due to anti-inflammatory activity of babchi, sendoor, mom and roghan-e-narjeel.[18, 21, 25-26]

The most probable reason behind the effect of drugs on epidermal thickening (psoriatic lesions) can be the anti-psoriatic activity of babchi and anti-inflammatory activity of babchi, sendoor, mom and roghan-e-narjeel.[18, 21, 25-26]

Disappearance of Auspitz sign probably due to ciccative action of mom, sendoor and haemostatic property of sendoor.[24-25]

The attenuation in histopathological characteristic features of psoriatic skin reveals the efficacy of *Psoralia corylifolia* Linn. seeds and Marham-e-Gulabi most likely due to anti-psoriatic activity of babchi and anti-inflammatory activity of babchi, sendoor, mom and roghan-e-narjeel.[18, 21, 25-26]

An antipsoriatic drug that targets the epidermis is expected to restores skin homeostasis by suppressing keratinocyte hyper proliferation, abnormal differentiation, or both.[27]

It is concluded that *Psoralia corylifolia* Linn. seeds and Marham-e-Ghulabi evaluated in this study for the treatment of psoriasis clinically and histopathologically appeared to be safe, non-toxic and highly effective. However, further study on larger sample and its long-term use should be carried out to established possible cure of psoriasis.

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