Effect of *Psoralia corylifolia* Linn. and *Marham-e-Gulabi* in Da-al-sadaf (psoriasis)

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The therapeutic evaluation of *Psoralia corylifolia* Linn. and *Marham-e-Gulabi* (non-pharmacopoeial), a Unani formulation in 40 patients of Da-al-sadaf (psoriasis) revealed an over all clinical improvement in about 77.5% at the end of 45 days treatment. The test drug did not show any side effect on the kidney and liver.

**Keywords:** Da-al-sadaf, Unani Medicine, Psoriasis, Skin disease, *Psoralia corylifolia*, *Marham-e-Gulabi*, Antiinflammatory activity, Antipsoriatic activity

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*Da-al-sadaf* (psoriasis) has not been mentioned in any classic medical literature. However, it was mentioned in Unani medicine and in Ayurveda as Kust Kutam\(^1\sim^2\). In recent times, psoriasis has been identified as an independent disease or skin disorder and described in its present form\(^6\sim^7\). *Da-al-sadaf* is derived from two Arabic words *Daun* (= disease) and *Al-Sadaf* (= oyster shell), while psoriasis is derived from a Greek words *so-ri-a-sis*, which means itching\(^7\sim^8\). Technically, it may be defined as a common genetically determined, inflammatory and proliferative disease of the skin. The most characteristic lesions consisting of chronic, sharply demarcated, dull red scaly plaques, particularly on extensor aspect, bony prominences and scalp\(^9\sim^10\).

Psoriasis is a worldwide disease. The estimated prevalence is 0.5-1.5% of population in India and 1-2% of population globally\(^11\). It occurs with equal frequency in both sexes, but female tends to develop psoriasis earlier than male\(^10\sim^12\). It has a bimodal peak of incidence at 16-22 yrs and 57-60 yrs\(^10\). Typically, psoriasis begins in teenage and early adult life; the attack is more common in winter than summer\(^13\). There is an increase prevalence of psoriasis in individuals with human leukocyte antigens (HLAs), HLA, BW17, B13 and BW37\(^12\). Thirty percent of patients have a family history of disease\(^13\). The exact etiology of the disease is still unknown, but it is considered to be an autoimmune disease and has a strong genetic prediction in the form of polygenic dominant inheritance\(^13\). According to Unani concept, there are some precipitating and triggering factors such as abnormal humours (*Sauda-e-Mohtaraq, Merah-e-Sauda* and *Balgham-e-Shor*); diet (cold & dry and salty diet), red meat, low calcium and high iodine diet; mental stress, trauma, infections, sunlight, puberty, pregnancy, drugs (antimalarial, β-blockers, antimalignant, immuno-suppressive and NSAID)\(^10,11,15\sim^18\). Low humidity and cold weather also aggravates it\(^10\).

Regarding pathogenesis, scholars described that when the *khilt-e-sauda* moves towards the skin, then the *tabiyat* (homeostasis) of the body differs from the skin, therefore the skin neither gets nourishment from that *khilt* (humour) nor excretes it, which makes the skin scaly\(^19\). According to modern pathologists, the basic defect is rapid epidermal proliferation in psoriatic lesion and cellular turnover is increased up to 7 folds and the transit time from the basal layer to the top of the stratum corneum is 3-4 days rather than usual 28 days. Thus, rapid turnover of keratinocytes alters keratinization, resulting in thickened epidermis (seen as papules and plaques) and para-keratotic stratum corneum (silver scales). T lymphocytes for epidermal proliferation play an important role, but the exact mechanism underlying this benign proliferation reaction is unknown\(^12\). Clinically, psoriasis presents as chronic, well defined erythematous plaques with silvery or micaceous scales and symmetrical in distribution, itching or burning, candle grease like scale can be repeatedly scraped on scratching the

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psoriatic lesion (Candle grease sign), other important clinical features are pin point bleeding on removal of scales (Auspitz sign), appearance of typical lesion at the sites of even trivial injuries (koebner phenomenon), affected nails become like dents made with a ball point pen; tanoval spots of 2-4 mm in diameter (oil spots)\(^{11,13,14,20}\). The healing lesions of psoriasis become non scaly and dusky in color encircled by a clear peripheral zone (Hallo or woronoff ring)\(^{14}\). Two of the chief features of the psoriasis are its tendency to recur and to persist\(^{11}\). On the basis of epidemiology, the psoriasis is divided into 2 major groups: Type-1 psoriatic showing an onset in the teenage and early adult life, such individuals frequently have a family history and there is an increased prevalence of HLA CW6antigen; Type-2 psoriatic onset is in individuals of fifties or sixties, family history is less common and the HLA CW6 antigen is not so prominent\(^{20}\).

In Unani System of Medicine, the recommended lines of management to control psoriasis are Nazuj wa Tanqiyah-e-Akhlat-e-Ghair Tabayiah (concoction and expulsion of abnormal humour) specially, Sauda (melancholic humor) by Aftimoon wilaiti (Cuscuta reflexa Roxb.), Tukhm-e-Babchi (Psoralia corylifolia Linn.), Bisfajj Fistaqi (Polypodium vulgaris Linn.), Ghariqoon (Polyporus officinalis Fries) Turanjbeen (Fraxinus ornus Linn.); along with Tahleel-e-auram (resolution of inflammation) by Mako (Solanum nigrum Linn.), Kasni (Cichorium intybus Linn.), Brinjasif (Artimisia vulgaris Linn.); Tasfeeh-e-dam (blood purification) by Shahattra (Fumaric parviflora Lam.), Unnab (Zizyphus vulgaris Lam.), Chiraita (Swertia chirata Buch.-Ham.), Sarphoka (Tephrosia purpurea (Linn.) Pers.), Ushba maghrabi (Smilex aspera Linn.), Karela (Momordica charantia Linn.); Indimal-e-zakhm (Cicatrization) by Sendoor (plumbum), Sang-e-Jarahat (Silicate of magnesia), Mazu (Quercus infectoria Oliv.), Hina (Lawsonia inermis Linn); Taskeen-e-Jild (demulcificaction) by Behdana (Cydonia vulgaris Pers.), Unnab (Zizyphus vulgaris Lamk.), Tukhm-e-kahu (Lactuca scariola Linn), Samaghi-e-arabi (Acacia arabica Willd); Tareerb-e-umoomi wa muqami (general and local moisturization) by Arg-e-gulab (rose water), Roghan-e-badam (almond oil), Roghan Zaitoon (oliv oil), Roghan-e-narjeel (coconut oil) and use of Jali (detergents) like neem (Azadiracta indica Linn.), haldi (curcuma longa Linn.), kamela (Mallotus philippensis Muel.Arg.)\(^{3,4,21}\). In Allopathy, the goal of therapy is to decrease epidermal proliferation and underlying inflammation, for this purpose antimitic or cytotoxic agents like methotrexate, azathioprine, cyclosporine-A and photochemotherapy are adopted\(^{12,17}\).

Tukhm-e-Babchi (Psoralia corylifolia Linn. seeds) are odourless but on chewing they emit a pungent odour and have a bitter unpleasant acrid taste derived from babchi (Psoralia corylifolia Linn.) plant\(^{22}\). They are hot and dry in nature\(^{23}\). Psoralen and Isopsoralen are considered therapeutically active constituents of these seeds\(^{22}\). They are specially recommended in the treatment of leucoderma, leprosy, psoriasis and other inflammatory diseases of the skin\(^{22,23}\). Marham-e-Gulabi is a non-pharmacopoeial formulation of Ajmal Khan Tibbiya College Hospital, Aligarh Muslim University, Aligarh. It is claimed to be beneficial in psoriasis as a Nafe-e-busoor wa Qurooh\(^{24}\). Keeping this fact an attempt has been made to study the clinical significance of these drugs in psoriatic patients.

**Methodology**

The clinical study was conducted on 40 psoriatic patients selected from OPD and IPD of Department of Moalejat, Ajmal Khan Tibbiya College Hospital, Aligarh Muslim University, Aligarh during 2004-2006. Children, mentally ill, prisoners, pregnant and lactating women, the person who had positive history of allergic manifestation, secondary infection on their lesion and those suffering from any systemic disease and metabolic disorders were excluded from the study. The patients between 10-70 yrs of age of both sexes with well established clinically diagnosed psoriatic patients were included in the study\(^{21}\). The micro fine powder (Safoor of babchi seeds, obtained from Dawakhana Tibbiya College, Aligarh Muslim University, Aligarh was prepared and Marham-e-Gulabi (Table 1) obtained from Ajmal Khan Tibbiya College Hospital dispensary was used as a topical agent. The patients were advised to take 6 gm of Safoor-e-Babchi twice a day in the form of a zulal (decant water) on empty stomach and apply the Marham-e-Gulabi on the lesions once a day\(^{24,25}\).

<table>
<thead>
<tr>
<th>Table 1—Ingredients of Marhame-e-Gulabi per 20 gm</th>
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<tbody>
<tr>
<td>Name of ingredients</td>
</tr>
<tr>
<td>Sendoor (Plumbum)</td>
</tr>
<tr>
<td>Mom (Bee’s wax)</td>
</tr>
<tr>
<td>Boric Acid (Boracic acid)</td>
</tr>
<tr>
<td>Carbolic Acid (Phenol)</td>
</tr>
<tr>
<td>Roghan-e-Narjeel (Coconut Oil)</td>
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</tbody>
</table>
The duration of study was 45 days and no concomitant treatment was allowed during the study. The patients were assessed on the basis of clinical examination on every 15th day. The necessary investigations were carried out at the beginning and at the end of the study. All the observations were tabulated and statistically analyzed by applying Z-test to note significance of drugs efficacy.

Results and discussion

Itching was observed in all the 40 patients at the beginning of the treatment, but at the end of the study, only 8 cases (20%) had itching (Table 2 & Fig. 1). The effect of drugs was found to be highly significant on itching. This improvement may be due to antipruritic effect of Babchi, Mom, carbolic acid, Roghan-e-narjeel and blood purifying property of Babchi. During the study, it was found that 9 cases (22.5%) had burning sensation at the beginning of the study. But at the end of the study, burning disappeared in all the cases (100%) (Table 2 & Fig. 1). This may be due to the soothing effect of Sendoor, emollient and analgesic effects of Mom. All 40 cases had scaling and after 45 days of treatment, 37 cases (92.5%) improved (Table 2 & Fig. 1). It was deduced that the effect of the drugs on scaling was highly significant. This improvement may be because of antimelancholic property (Mana-e-sauda) of babchi, detergent properties of babchi and sendoor, and moisturizing property of roghan-e-narjeel. It was observed that out of 40 cases, 6 cases (15%) had the complaints of discharge from the lesion at the beginning of the study. The discharge ceased in all cases after 45 days of treatment (Table 2 & Fig. 2). This result may be due to the vasoconstructive effect of sendoor, siccative effect of sendoor and mom.

It was observed that 20 cases (50%) had new eruption before the treatment and after 45 days of treatment, 14 cases (70%) have shown improvement (Table 2 & Fig. 2). The effect of the drugs on new eruption was significant. The most probable reason can be the antiinflammatory action of babchi, sendoor, mom and antipsoriatic effect of babchi roghan-e-narjeel.

Woronoff ring sign was negative in all patients before the treatment, 26 cases (65%) improved after the treatment of 45 days (Table 2 & Fig. 2). The effect of the drugs was significant. This improvement may be due to the cicatrizing property of sendoor, mom, carbolic acid, roghan-e-narjeel and antipsoriatic effect of babchi, and roghan-e-narjeel.

Twenty eight cases had papules at the beginning of the study. Only 2 cases (7.1%) had papules at the end of the study (Table 2 & Fig. 3). The effect of the drugs was significant. The reason behind this effect may be the antiinflammatory property of babchi, sendoor, mom, and roghan-e-narjeel.

Only two cases had pustules before the commencement of the study. After 45 days of treatment, only 1 case (50%) got improvement (Table 2 & Fig. 3). Since, the efficacy of drugs in case of pustules is 50% therefore it is very difficult to conclude the effectiveness of the drugs in the treatment of pustules.

Table 2— Efficacy of drugs on clinical features of psoriasis

<table>
<thead>
<tr>
<th>Clinical feature</th>
<th>Before treatment</th>
<th>After treatment</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>Itching</td>
<td>40</td>
<td>100</td>
<td>03</td>
</tr>
<tr>
<td>Burning</td>
<td>09</td>
<td>100</td>
<td>04</td>
</tr>
<tr>
<td>Scaling</td>
<td>40</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Oozing</td>
<td>06</td>
<td>100</td>
<td>03</td>
</tr>
<tr>
<td>New eruptions</td>
<td>20</td>
<td>100</td>
<td>06</td>
</tr>
<tr>
<td>Woronoff ring</td>
<td>40</td>
<td>100</td>
<td>02</td>
</tr>
<tr>
<td>Papules</td>
<td>28</td>
<td>100</td>
<td>02</td>
</tr>
<tr>
<td>Pustules</td>
<td>02</td>
<td>100</td>
<td>00</td>
</tr>
<tr>
<td>Plaques</td>
<td>40</td>
<td>100</td>
<td>02</td>
</tr>
<tr>
<td>Auspitz sign</td>
<td>40</td>
<td>100</td>
<td>09</td>
</tr>
<tr>
<td>Erythema</td>
<td>40</td>
<td>100</td>
<td>02</td>
</tr>
<tr>
<td>Psoriatic nails</td>
<td>03</td>
<td>100</td>
<td>00</td>
</tr>
<tr>
<td>Psoriatic arthropathy</td>
<td>03</td>
<td>100</td>
<td>00</td>
</tr>
<tr>
<td>Loss of hair</td>
<td>02</td>
<td>100</td>
<td>00</td>
</tr>
</tbody>
</table>
to deduce any result. Hence further studies requires on large sample size. All 40 cases had plaques at the beginning of the study, but 26 cases (65%) have shown improvement after 45 days of treatment (Table 2 & Fig. 3). The effect of the drugs was significant. This result may be due to antinflammatory effect of babchi, sendoor, momand roghan-e-narjeel$^{22,25,28,30}$.

In the study, Auspitz sign was present in all cases. But after treatment of 45 days, in 38 cases (95%) it disappeared (Table 2 & Fig. 4). The value was found highly significant. The most probable reason can be the cicatice effect of mom, sendoor and haemostatic property of sendoor$^{28,29}$. During study, the erythema was present in all cases before the treatment. 30 cases (75%) showed improvement.
at the end of the study and statistical analysis was found significant (Table 2 & Fig. 4). The reason behind this significant effect may be the anti inflammatory effect of *babchi*, *sendoo*, *mom* and *roghan-e-narjeel*. It was observed that the psoriatic nails were found in 3 cases before the treatment. Only 1 case (33.3%) improved after 45 days of treatment (Table 2 & Fig. 5). It was observed that in 3 cases there were psoriatic arthropathy before the treatment, and after 45 days of treatment, psoriatic arthropathy remained positive in 1 case (33.3%) only (Table 2 & Fig. 5). The loss of hair was present in 2 cases and after the treatment, all patients improved in this regard (Table 2 & Fig. 5). Because of small sample size it is very difficult to evaluate the efficacy of drugs on psoriatic nails, psoriatic arthropathy and loss of hair.

Conclusion

On the basis of above observations it may be concluded that the effects of *Safoof-e-Babchi* and *Marham-e-Gulabi* on the clinical evidences of psoriasis were found satisfactory (Figs 6-17). The drugs used were well tolerated and without unwanted effects. However, further study of large sample size of the ailment as well as long term effects of the drugs should be carried out to established possible cure of psoriasis.

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References