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Case Report

Management of Baras (Vitiligo) with Babchi (Psoralea corylifolia) and Micro-needling: A Case Report

Anwar Ibtisam[1*], Khalid Mohd[2*], Ahamad Saleem[3*]

[1] Master's degree, State Unani Medical College and HAHRDM Hospital, Himmatganj, Prayagraj*
[2] Teacher, State Unani Medical College and HAHRDM Hospital, Himmatganj, Prayagraj*
[3] Master's degree, State Unani Medical College and HAHRDM Hospital, Himmatganj, Prayagraj*

ABSTRACT

Objective: This case report presents the successful management of Baras (focal vitiligo) in 62-year-old female patient in whom a combined therapy of Babchi (*Psoralea corylifolia*) and micro-needling was given and promising result of repigmentation in focal depigmented patches was observed.

Method: Although, various studies have indicated the efficacy of Babchi in the management of vitiligo with refractory results. In this case report, the Unani formulations consisting of Safuf Baras and Roghan Babchi have been combined uniquely with micro-needling to treat as well as overcome the refractory nature of vitiligo. The diagnosis of the case was made on the basis of clinical, Woods lamp examination and dermoscopy. This 62-year-old female patient received the interventions for 28 days along with dietary advice as per the Unani medical principles. The compliance to the therapy was good and no overt side effect was reported by the patient during the course of treatment.

Result: Significant repigmentation was observed at the end of treatment. The efficacy may be attributed to the inherent active ingredients like psoralen, Rhein, and bergapten which promote melanogenesis. Further, micro-needling also helped in delivery of active ingredients through the microchannels at the dermal level and stimulation of melanocytes.

Discussion: Unani formulations along with micro-needling resulted in the repigmentation of lesions. This indicates the effectiveness of USM. Further exploration is needed to optimize this treatment option in vitiligo.

Keywords Vitiligo, Baras, Micro-needling, Babchi, *Psoralea*

INTRODUCTION

Vitiligo is an acquired depigmentary disorder resulting from the progressive loss of melanocytes characterized by milky-white sharply demarcated macules.[1] Segmental and non-segmental vitiligo are the two main categories of vitiligo, whereas non-segmental vitiligo may also consist of acrofacial, mucosal, generalized, universal, mixed, and rare types.[2,3]

According to Unani system of Medicine, Baras (vitiligo) results from Sū'-i Mizāj Bārid (cold morbid temperament) of the affected part of the skin and accumulation of Balgham (Phlegm), and lead to weakness of the organ's Quwwat Mughyyirah (transformative faculty).[4] As, the blood which is the mixture of four important humoral fluids, supplies the nourishment to the skin, predominance of Balgham in blood turns the skin into patchy whitish discoloration.[4] Quwwat Mughyyirah which is entrusted to transform the nourishment carried by blood into skin-line texture, is unable to perform its function due to weakness caused by excess cold temperament and localized accumulation of morbid Balgham.[5,6]

The first line of treatment includes once-daily application of potent topical corticosteroid preparations (e.g. 0.1% betamethasone valerate or 0.05% clobetasol propionate) along with topical calcineurin inhibitors (pimecrolimus, tacrolimus).[2,3] The second line of treatment includes systemic psoralen photochemotherapy (PUVA). Ultraviolet B therapy can also be used.[2,3] The third line of treatment includes grafting techniques in patients with stable vitiligo (segmental vitiligo).[2,3]

According to the Unani System of Medicine, the first line of treatment includes Munzij-i-Balgham (concoctive of phlegm) therapy for two weeks followed by Mus'hil (purgative) therapy till the morbid matter is evacuated from the body. Secondly, Tasfiya al-Dam (purification of blood) is done by using various single and compound formulations mentioned in Unani literature. The third line of treatment includes topical application of

*Correspondence: Ibtisam Anwar
E-mail: ibtisamanwar1998@gmail.com
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repigmenting drugs like Babchi (*Psoralia corylifolia* L.), and Tukhm-e-Panwad (*Cleome icosandra* L.).[5,6]

In conventional medicine, the pharmacological treatment consists of topical corticosteroids, calcineurin inhibitors, psoralen, vitamin D analogues, 5-fluorouracil (5-FU), methotrexate, Janus Kinase (JAK) inhibitors, minocycline, azathioprine, cyclosporine, and biologicals with varied effectives across age and gender accompanied with various side effects such as atrophy, striae, telangiectasias, hypertrichosis, acneiform reactions, burning sensation, and pruritus.[7-9]

A recent therapeutic approach on use of micro-needling has showed significant repigmentation in cases of vitiligo.[7] Simple injection needles or micro-needling equipment, such as automated needle pen devices, manual rollers, derma rollers, and fractional radiofrequency micro-needling devices, can be used for the procedure.[10] To manage the depth of penetration and minimize excessive pain during injection, micro-needling is superior to the traditional injection needles. It causes micro-inflammation in the epidermis resulting in the migration of keratinocytes and melanocytes and repigmentation of depigmented patches. It also facilitates the effective transplantation of melanocytes from pigmented to unpigmented areas and improves the skin's ability to absorb topical medications.[7] Thus, it is being widely used in management of vitiligo alone or in conjunction with other anti-vitiligo measures. Psoralen, an active chemical constituent present in *Psoralia corylifolia*, has pharmacologically been found effective in repigmentation of vitiligo lesions.[7]

Seeing the scientifically observed effectiveness of micro-needling and *Psoralia corylifolia*, two important Unani pharmacopeial formulations i.e., Safuf Baras and Roghan Babchi, the chief constituent of which is *Psoralia corylifolia*, was administered along with application of micro-needling.

MATERIALS AND METHODS

1. **Subject**

A 62 years old female patient presented in the dermatology outpatient department of State Unani Medical College and Hospital, Prayagraj, Uttar Pradesh with complaint of a focal non-anesthetic white patch, geographical in shape, around 5x5 cm in size, with pigmented hairs in the midline neck anteriorly for past 7 months. There was no family history of vitiligo as well as no significant history of hormonal or metabolic disease.

2. **Clinical findings**

There was a hypopigmented lesion on the anterior neck of the patient. On examination, the surface of the lesion was smooth, and white in color, and no other site in the body was affected.

3. **Timeline**

2024-05-08	Patient visited with the complaint of white patch on anterior neck and diagnosis was made as focal vitiligo.
2024-05-09	Baseline investigations were done like complete blood count (CBC), liver function test (LFT) and random blood sugar (RBS). Findings came within normal limits.
2024-05-10	Treatment started and the first session of micro-needling was done.
2024-05-17	The patient came with significant relief in symptoms and a second session of micro-needling was done.
2024-05-24	Patient complained of mild itching on the affected site. Interventions were added to provide relief and third session of micro-needling was done.
2024-05-27	Hematological investigations were repeated. All findings came within normal limits.
2024-05-31	The last session of micro-needling was done and the patient was highly satisfied with the results.

4. **Diagnostic assessment**

The diagnosis of vitiligo was essentially made on basis of clinical examination along with inspection of lesions with dermatoscope and Wood's lamp.

5. **Methods**

The patient was admitted in In-Patient Department (IPD) of the hospital and the procedure of micro-needling was done once a week with a derma-roller of 0.5 mm size, maintaining all the aseptic measures. Roghan Babchi was applied on the affected site twice daily for 1 week. Moreover, Zulal (infusion) of Safuf Baras was given orally once daily before breakfast. In total, four sittings of micro-needling were done. The patient was also given psychological support in the form of counselling regarding her disease. The patient was followed-up on weekly basis where through clinical examination of the lesions was done and duly recorded in the case report form. The reduction in vitiligo was assessed using vitiligo area scoring index (VASI) score. The baseline VASI score was …**0.45**… which reduced significantly to …**0.125**. at the end of treatment. No systemic and local side effect was reported by the patient.

Table 1: Composition of Safuf Baras (each 10 g powder)[11]

Sr. No.	Drug Name	Botanical Name	Dose
1.	Babchi	*Psoralia corylifolia* L.	2.5 g
2.	Chaksu	*Cassia absus* L.	2.5 g
3.	Anjeer Khushk	*Ficus carica* L.	2.5 g
4.	Tukhm-e-Panwar	*Cleome icosandra* L.	2.5 g

Method of application: 10 g of powder was soaked in 50 ml of water overnight. The infusion was decanted and orally administered in the morning. The sediment was mixed with vinegar to prepare a paste and applied on the affected site followed by exposure to sunrays for 10 minutes between 9–10 am.

Table 2: Composition of Roghan Babchi (each 10 ml contains) [8]

Sr. No.	Drug Name	Botanical Name	Dose
1.	Babchi	*Psoralia corylifolia* L.	33 g

Fig. 1. Derma roller (0.5 mm) used for micro-needling

RESULT

The vitiligo patch showed repigmentation on second follow-up that is on the 7th day of the treatment. The patient was highly satisfied with the treatment results.

Fig. 2. Before treatment

Fig. 3. One week after treatment

Fig. 4. Four weeks of treatment

The patient complained of mild itching and burning sensation on the affected site after applying topical oils for 7 days. From that day onwards, she was advised to apply Roghan Gul and Roghan Babchi in a 2:1 ratio. No other complaints were noted.

DISCUSSION

This case study showed that Unani formulations along with micro-needling has significant result in repigmentation of vitiligo patches. Our findings are consistent with previous studies done by Husain et al, Ghali et al and Khan P et al.[12–14] Babchi (Psoralia corylifolia), being the chief ingredient of these two pharmacological formulations, is a potent Jali (detergent), Musaffi-I Dam (blood purifier) and Munzij-i Balgham (concoctive of phlegm) which helps expel accumulated morbid phlegm in the skin.[4,15] Experimental studies have found that Psoralea corylifolia contains furanocoumarins like Psoralen, Bergapten, and Xanthotoxin, which can enhance repigmentation process and promote melanin formation.[16]

Rhein, a naturally occurring anthraquinone found in *Cassia absus* and *Cassia tora*, has potent therapeutic efficacy in vitiligo. It acts by increasing the activity of tyrosinase enzyme and stimulating the melanogenesis through activation of the cAMP-CREB-MITF pathway.[17,18] By scavenging dangerous free radicals, it also helps in protecting melanocytes from oxidative damage and promotes repigmentation.[19] The anti-vitiligo properties of *Ficus carica* (Anjeer) are attributed to two photoprotective furanocoumarins that promote melanogenesis include psoralen and bergapten.[20] It is propounded that on exposure to UVA, photo-conjugation of psoralens and bergapten in melanocyte DNA results in mitosis, replication, and proliferation of melanocytes. Thus, increased number of melanosomes and their transfer to keratinocytes leads to repigmentation.[21,22]

Over the years, micro-needling has been used without following a set methodology in various skin disorders as it stimulates skin regeneration and repair by causing tiny wounds in the skin.[10] When combined, the benefits of micro-needling and Safuf Baras produced a more favorable environment for repigmentation through the synergistic effects of skin healing, melanocyte activation, and increased drug delivery.

CONSENT

Informed consent was obtained for the use of photos and data related to the clinical history and for the preparation of this manuscript understanding that this information may be publicly available.

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CONFLICT OF INTEREST

The authors have no conflicting financial interests.

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