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Research Article

# CLINICAL POTENCY OF UNANI REGIMEN IN MANAGEMENT OF VITILIGO: A CASE REPORT

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**ABSTRACT**

vitiligo is a common skin disorder in which there is a focal failure of pigmentation due to destruction of melanocytes that is thought to be mediated by immunological mechanism.10-30% of patients have history in other relatives. A 5 years old male child was brought to outpatient department of National research institute of Unani medicine for skin disorder Hyderabad, with presenting complaints of hypopigmented patches covering right cheek and periorbital area for from past 3 years, he was treated with topical Unani formulation UNIM001 for the period of 1 year from 0ctober 2020 to October 2021. All the routine blood and urine investigations were done before and after treatment. After 1 year of treatment patient started showing significant clinical results with re-pigmentation of affected area. Therefore, this case study proved successful use of Unani formulation in management of vitiligo.

**KEYWORDS**: Baras, Vitiligo, Hypopigmentation, leukoderma.

## INTRODUCTION

In Unani system of medicine physicians described Baraṣ as a disease which occurs as a result of accumulation of Balgham Ghayr Ṭabī‘ī (thick phlegm), which is caused due to Ḍu‘f-i-Quwwat Mughayyira badan (Transformative faculty) and Quwwat Mushabbiha badan (faculty of assimilation) which help in changing and converting the nutrients according to different parts of body[1,2]. Raban Tabri consider Mizāj Bārid and excess of Balgham (predominance of phlegm) as the cause of Baraṣ[3]. The Hindustani name of vitiligo is phuleri, it is most common condition in India and known as leukoderma in Egypt and other tropical countries[4]. Word vitiligo is derived from Latin word *Vitium* (blemish) with the suffix (igo)[5]. Vitiligo is a common acquired patterned idiopathic hypo melanosis that is often familial disorder characterised by pale white macules that enlarge centrifugally over time[6]. Since ancient times patients with vitiligo suffered the same mental abuse as Lepers, vitiligo was referred to as Sweta kushta meaning "White leprosy". Vitiligo is disfiguring in all races but particularly more so in dark skinned people because of strong contrast[7]. Except for cosmetic defect vitiligo is absolutely harmless disease, a patient having vitiligo can be equally efficient physically, mentally and sexually as any other normal individual[8]. Childhood vitiligo is quoted when disease starts below 12 years of age. Children with vitiligo have an increased incidence of autoimmune or endocrine disease in immediate and extended family members thus it is considered to be inherited by autosomal dominant gene with irregular penetration[9]. Vitiligo in children differs from adult in that it shows higher incidence of segmental presentation, morphology of vitiligo patch is usually well defined, ivory white, asymptomatic macule. Regression and spontaneous re-pigmentation are more appreciated in children with vitiligo, which have to be differentiated from acquired conditions like pityriasis alba and pityriasis versicolor. Common sites are face, periorbital area, neck, lower extremities, trunk, upper extremities, back, perineal, and oral areas etc. Scalp involvement in children can be heralded by appearance of leukotrichia or white hairs with in affected site[9].

**Pathophysiology:** Zakariya Razi said when part of the body becomes phlegmatic the blood reaching to that part will not nourish that organ properly. Probable cause of Baraṣ is excess accumulation of Balgham Ghayr Ṭabī‘ī due to constant consumption of cold food beverages and food having excess of water[10]. Ibn Sina defined the cause of Baraṣ as defective expulsion of waste material from the body or accumulation of Ghayr Ṭabī‘ī Madda or weakness of system which regulate the pigmentation of body[11]. These pigmentary difference in individuals are not due to difference in the number of melanocyte but apparently due to difference in number of melanosomes[5]. A defect in enzyme tyrosinase is held responsible for vitiligo, melatonin a substance secreted at nerve endings inhibit tyrosinase thus interfering in pigment formation[4]. Halo nevi is believed to be due to autoimmune mechanism where auto antibodies or sensitized lymphocytes are supposed to act on the melanocytes[12]. Several hypotheses exist regarding the pathophysiology of the disease.

- Immune hypothesis: An aberration of immune surveillance that produces melanocytes, it could be an injury to melanocyte with release of antigens and the subsequent autoimmunization, relevant for generalised vitiligo.
- Neural hypothesis: Postulates a neurochemical mediator that destroys melanocytes significant for segmental variant.
- Self-destruct/auto-toxic hypothesis: Implies intermediate in melanin metabolism that cause the destruction but none of these is entirely satisfactory[6,9].

**Factors that could trigger the onset of disease[4]:**

- Nutritional deficiency: Defect in copper, proteins, vitamins.
- Endocrine disorders: Thyrotoxicosis, diabetes and autonomic imbalance.
- Infection and toxic products: Drugs and chemicals etc.

**Epidemiology:** It occurs in 1-2 percent of world population and is more common when occurred in other family members[13]. About 20% of vitiligo patients have at least one 1st degree relative with increased risk of 7-10 folds in 1st degree relative and second-degree relatives have significant elevated risk, equal incidence of occurrence among females and male[5]. Immediate precipitating cause is inapparent, some attribute it to emotional crisis[5]. About 50% affected patients have an onset of disease before 20 years[9].

**Classification Of Vitiligo:** According to Ahmad bin Rabban Tabrī the disease affects in two different forms, site of lesion in the first kind of Baraṣ involve full thickness and extend up to the bone's surface or even within it, treatment for this type of Baraṣ is tough. The lesion in the second kind of Baraṣ is limited to the skin and superficial layers of bone which is possible to treat it[1]. Akbar Arzānī described another kind of Baraṣ called Baraṣ-i-Muntashir (generalised vitiligo) which becomes chronic, covers entire body, and continues to develop, and it becomes challenging to treat [14]. The Vitiligo European Task Force (VETF) came to a consensus about the classification of vitiligo in 2007. The four main categories with subtypes[15]**.** (Table 1)

**Table 1: Four main categories with subtypes of vitiligo**

| Classification | Subtypes | Comments |
|---|---|---|
| Nonsegmental vitiligo | Focal<br>Mucosal<br>Acrofacial<br>Lip- Tip<br>Generalised<br>Universal | Tends to be bilateral and symmetrical in distribution.<br>Stable or unstable. |
| Segmental vitiligo | Focal<br>Mucosal<br>Uni-segmental, Bi- or multisegmental, | Affects children<br>Single white patch in 90%<br>Follows dermatomal distribution (most common: trigeminal), does not cross midline, head involved in > 50% of cases<br>Border often irregular + leukotrichia<br>Rapid onset, remains stable after the first six months to two years<br>Protracted course<br>Cutaneous mosaicism (Blaschkoid, dermatomal, phylloid, checkerboard patterns) |
| Mixed vitiligo | Nonsegmental combined with segmental vitiligo | Rare<br>Bilateral segmental follows non-segmental (months-years)<br>Predictors to transform into mixed variant: leukotrichia, halo naevi |
| Unclassified vitiligo | Focal at onset<br>Multifocal asymmetrical non-segmental<br>Unifocal mucosal<br>Punctate (confetti or vitiligo- ponctué)<br>Hypochromic (minor) vitiligo<br>Follicular vitiligo | Punctate: small macules (1–2 mm).<br>Hypochromic (minor): in type V/ VI skin, mainly seborrheic distribution<br>Follicular: prominent leukotrichia with absent/ limited skin involvement |

**Diagnosis:** Baraṣ is diagnosed as whitish discoloration over the outer surface of the body, Baraṣ involving feet and head gets treated very slowly, Baraṣ is curable if colour of patches is non extensive, reddish, yellowish, and on rubbing the affected skin becomes hyperaemic and on pricking the skin the red fluid dribble. On other hand if Baraṣ is extensive, patches are milky white or cloudy, if hairs of effected skin are white and if white fluid oozes on pricking it becomes challenge to treat[1,3,11,14,16.] The diagnosis of vitiligo is usually based on clinical ground one should be certain that disease causing hypopigmentation's are not present. A skin biopsy will show loss of epidermal cells and edges reveal abnormally large appearing melanocyte[17]. In early lesions melanocytes show vacuolation and granular deposits, borders show inflammatory infiltrates, during re-pigmentation there is migration of cell from follicular reservoirs[9]

**Treatment:** In Unani system of medicine following principles measures have shown to be helpful in improvement and management of disease.

- Tanqiya'-i-Badan therapy performed in 3 steps
  1: Munḍij-i-Balgham (concoctive of phlegm)
  2: Mushil-i-Balgham (purgative of phlegm) on alternate day
  3: Tabrīd (cooling of body) in between Mushils.
- Advia Muḥammir (rubefacient) and Advia Lādhi (irritant drug) should be used locally to provide strength and to stimulate Quwwat Ghādhiya [18].
- Many single drugs such as Aṭrilal (*Ammi majus linn.*), Bābchī (*Psoralea corylifolia*), Ḥabbal-Nīl (*Ipomoea nil*), Kherbaq Siyāh (*Helleborus Niger*), Panwār (*Cassia tora*), Qust (*saussurea lappa clarke*), Saqmūniyya (*Convolvulus scammonia*), Shītraj (*Plumbago zeylanicum*) as well as compound formulations in different dosage forms such as Iṭrīfal-i-Kabīr, Iṭrīfal-i Haman, Ma′jūn-i-Aṭrilal, Ḥabb-i-Ayāraj, Ḥabb-i-Baraṣ, Ḥabb-i-Sakbīnaj, Ḥabb-i-Hindī, Ṭilā-i-Baraṣ, Ṭilā-i-Hindī, Roghan-i-Baraṣ, Safūf-i-Hindī, Safūf-i-Kemrī, Safūf-i-KālaBichua, Safūf-i-Baraṣ, ′Arq-i-Tezāb, Marham-i-Baraṣ, Zimād-i-Baraṣ are available, which showed results orally as well as topically in vitiligo (baraṣ)[19].
- UNIM-001 is a polyherbal formulation based on *Psoralea corylifolia* and *Zingiber officinale*.
- UNIM-003 is a polyherbal formulation based on *Psoralea corylifolia* and *Punica granatum*[20].
- Restriction of Aghdhiya al-Muwallida li'l Balgham (phlegm-producing diets)[16].
- Advised use of Ghidhā' Ḥārr / hot temperament and avoidance of Ghidhā' Bārid / cold temperament and Aghdhiya Raṭba / moist food[1,21].

Modern system of medicine is using photosensitizing compounds which sensitize the skin to ultraviolet rays, *psoralen* available in synthetic form as tablets and ointments but both are useless without exposure to sunlight, other therapies PUVA therapy and PUVSOL is in use but are quite costly and have common side effects of phototoxicity. Corticosteroids used topically is another

method of treatment but themselves can cause side effects like epidermal atrophy, telangiectasia, hypertrichosis etc[8]. The effected area is painted with Xanthotoxin[22]. In case of treatment failure surgical treatment is given with melanocyte grafting[22].

## MATERIAL AND METHODS

A 5 years old boy was brought to the outpatient department of National Research Institute of Unani medicine for skin disorder Hyderabad, with complain of hypopigmentation of skin surrounding right cheek and periorbital area without scaling and itching since the past 3 years with no history of any other endocrine and autoimmune disease.

**General examination:** Patient was conscious, coherent and cooperative with average built and good nourishment. vitals were stable (Temp:98.6 F PR:82 bpm RR:24/min). No other cardiovascular, respiratory, nervous, gastrointestinal, and urogenital systems abnormalities were reported. Family history was not present.

**Consent:** As the patient was minor parents gave informed consent for the case study and the study was carried out as per ICMR National Ethical Guidelines for Biomedical and Health Research Involving Human participants.

**Intervention and follow-up:** Treatment started when Patient was 5 years old, he was given treatment for only topical application, Unani formulation UNIM 001 powder mixed with water, applied on alternate day basis for 30 min with first 5 min early sunlight exposure for the period of three months. As the progress was very slow medication changed and was given UNIM003 for the rest of the period which showed good improvement. As supportive treatment, for oral intake Majoon Dabeed ul Ward 3g twice before food which is well known hepatotonic, Sharbat Unnab 10ml twice after food which is good blood purifier and have soothing effect on body. Jawarish Pudina 3g once after food that helps in easing and speeding the digestion. Along with local soother Marham Raal was added for night time application. He was restricted on all the diary and processed food items, and non-vegetarian diets. Patient was reviewed monthly for follow-up in outpatient department for the period of 1 year.

## OBSERVATIONS AND DISCUSSION

Vitiligo is a common pigmentary disorder of great socio medical importance[5]. There is a chronic and progressive loss of melanocytes from follicular reservoir and epidermis[9]. Affecting 1–4% of the world population with no symptom or structural change nor any loss of sensation[22]. Thus, vitiligo has profound effects on the quality of life. Vitiligo beginning in childhood can be associated with significant psychological trauma that may have long lasting effects on these children. Various medical disorders are known to be associated with vitiligo, including thyroid disease, Addison's disease, pernicious anaemia, diabetes mellitus and alopecia areata[6]. Now a days psoralen has become the main stray of treatment, these agents are originally obtained from plant *Psoralea corylifolia* (Babchi) in India and Atrilal (*Ammi-majus*) in Egypt, which has been in use under Unani system of management since decades[8]. Such psoralen containing formulation UNIM 001 and UNIM 003 manufactured at GMP certified pharmacy of National research institute of Unani medicine for skin disorder, Hyderabad. The same was given to the 5 years old patient of vitiligo and followed up every month for 3 months. Efficacy of the medicine was obtained based on clinical observation with re-pigmentation of patches. Photographic assessment was done before and after treatment. For Safety parameter blood investigations were done there were no clinical side effects observed, and all haematological and biochemical parameters were within normal limits before and after treatment. Initially the treatment response was very slow, which after changing the medication took the speed and lesion keeps on improving. Thus, the results obtained with the Unani formulation were slow but satisfying. (Picture 1)


## CONCLUSION

Hence use of Unani formulation in treating patients have proved safe and the remarkable without any adverse effect. From the perspective of Unani medicine, vitiligo is disorder of the humoral system, involving an imbalance in the body's vital fluids. Unani treatments focus on restoring this balance through a holistic approach that addresses not only the physical symptoms but also the mental and emotional well-being of the individual. Ultimately, Unani system has achieved the goal in aiding individuals suffering with vitiligo in their journey towards healing, acceptance, and well-being where allopathy medicine has proved to be helpless. There is need to assess all the latest research and guidelines in treatment of vitiligo to ensure the safety and efficacy of the Unani formulation, and for marketing it for public use and for promoting trust and confidence in this traditional healing system while safeguarding the well-being of patients.

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