



## Leucoderma (Bars): A Comprehensive Review on Concept and Management in Unani Medicine

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**ABSTRACT:** *Bars* (Leucoderma), is a very common skin disorder in which well-demarcated de-pigmented chalky white patches appear on various parts of the body. Although there are numerous treatment modalities exist in mainstream medicine, but all have their pitfalls and the problem of treatment remains. In Unani literature, *bars* is described as a chronic disease that has been effectively treated with various single and compound herbal preparations since Greco-Arab period. Unani physicians say that it is caused by unnecessary accumulation of abnormal phlegm. Renowned Unani physicians therefore advocated that the treatment of leucoderma should start with the removal of *balgham-e-ghaleez* from the body with an appropriate dose of *Munzij* and *Mushil therapy*. After *Munzij* and *Mushil therapy*, har mizaj drugs (hot temperament) along with specific dugs like Psoralea seeds (*Psoralea corylifolia*), Atrilal (*Ammi majus*), Fig (*Ficus carica*), China root (*Smilax china*), Ringworm plant (*Cassiafora foetidalin*), Sarphoka (*Tephrosia purpurea*), Barg-e-hina (Lawsonia inermis) are advocated for therapy. Direct sunlight exposure to lesion together with local applicants has an excellent effect as sunlight activates the pigmentation process. Our aim is to illustrate the concept and methods of treating *bars* mentioned by Unani Physicians, with the aim of providing inexpensive, effective, readily available, and comparatively safe drugs for treating *bars* and popularizing Unani medicine among people. In the light of the above discussion, we can conclude that the dissemination of knowledge about the extensive and efficient Unani herbs and general treatment principles applied by Unani scholars since ancient times will be extremely efficient in the treatment *bars*.

**KEY-WORD:** *Bars*, Leucoderma, Melanin, Unani system of medicine, White patches

## INTRODUCTION

*Bars* (Leucoderma) is a most familiar forms and oldest known skin pigmentary disorder. It occurs worldwide with an estimated prevalence of 0.5-2% in world populations and in India its prevalence is more than eight percent with familial incidence of twenty five to thirty percent. It mostly seen in second and third decades of life<sup>1</sup>. It has been defined by renowned ancient Unani scholars as a dermatological disorder in which white spots appear on different areas of body. It is characterized by well defined hypo pigmented, chalky white spots of varying sizes and shape. There is no any structural changes take place exclusive of loss of skin color<sup>2</sup>.

The disease negatively affects self-esteem, social status and eventually, quality of life of patient particularly when areas such as face and hands are affected. The patches gradually increase in size and leads to psychological stress in patient. Eventually, it spreads to whole body surface and known as *Bars-e-Muntashir* (expanded leucoderma). The patches of leucoderma commonly found on sun-exposed area. Viz, hands feet, arms, face and lips<sup>3</sup>.

The earliest reference of this disorder is found in *Aushoorgan* era in history of Iranian Medicine (2200 BC)<sup>4</sup> and in the "*Eberus Papyrus*" (1550 BC) in which 2 types of diseases are mentioned that affecting skin color out of them one was probably Leucoderma<sup>5</sup>. In Buddhist sacred book "*Vinay Pitch*" (624- 544 B.C), the word "*KILAS*" is mentioned which means white spots on the skin<sup>6</sup>.

## CONCEPT OF BARS (LEUCODERMA) IN UNANI LITERATURE

Renowned Unani scholars described the abundant genesis and treatment of *bars* in details. Rhaze's (Rhazi, 850- 923AD), also known as "*Jalinoos of Arab*", in his famous book "*Kitab-ul-Hawi*" described the aetiology, clinical pictures and treatment of *bars* in detailed. According to him, *bars* is able to cured if affected dermal area becomes red after vigorous massage and chance of revitalization is remote if white fluid come out after pricking the dermal lesion. He also narrated that satisfactory and fast cure may be requisites, if white patches are reddish or yellowish, moderate, and not involving a large area. He also said that head and feet spots do not take the effect of drugs rightly. Rhaze's further added that the pigmentation process activates and becomes speedy under sunlight and using the drugs locally. He also noticed that pricking on white spot by needle is also an effective approach to treat the leucoderma<sup>7</sup>.

### Asbaab (Etiology)

The renowned Unani scholars described the etiology of *bars* in comprehensive manner while describing the other skin disorders. Galen (*Jalinoos*) in "*Mu' alajat-e-Buqratiyah*",<sup>8</sup> Avicenna (*Ibn Sina*, 980- 1037) in "*Al-Qanoon Fit-Tib*",<sup>9</sup> *Ismail Jurjani* in "*Zakheera-e-Khwarzam Shahi*",<sup>10</sup> and *Hakeem Akbar Arzani* in his notorious book "*Tibb-e-Akbar*"<sup>11</sup> states that the *bars* is caused by "*Zoaf-e-Quwwat-e-Mughayyira-e-Badan*" (body's transformative capacity, that bring changes and shapes the nutrient matters into organs) and "*Mushabbiha-e-Badan*" (body's resemblance capacity)<sup>12</sup>. This Zoaf (fault) is mainly due to buildup of *Ghaleez Balgham* (viscous phlegm), *Damvi Fasaad* (impairment of blood) or *Damvi Barudat* (coldness of blood)<sup>13</sup>. Avicenna also state that due to weakness of *Quwwat-e-Dafia*, the *maddae ghaleeza* remain accumulated in the involved parts, hence the nutrients reaching at involved parts through blood circulation become altered and not able to be a part of organ so that organ unable to get its normal appearance due to weakened *Quwwat-e-Mushabbiha-e-Badan*. At another place while discussing the diseases which are transmitted from parents to the offspring and from generation to generation, he mentioned that there are many diseases which are transmitted from generation to generation and *bars* is one of them<sup>14,15</sup>.

*Rabban Tabri* (810- 895 AD), eminent physician of medieval period, described the etiology of *bars* in his famous book "*Firdaus-ul-Hikmat*" and told that "*Damvi Barudat* (blood coldness) and *Damvi Fasaad* (blood defect) and are the most frequent causes of *bars*. He also added that if *Quwwat-e-Hazm* (digestive

faculty) of body unable to metabolize the food properly, there is formation of unhealthy blood which has cold and moist temperament (phlegmatic temperament) and leads to appear the *bars* <sup>16</sup>.

Rhaze's says that due to excessive accumulation of *Balgham-e-Ghaleez*, the temperament of affected parts altered and become phlegmatic and soft like that of mollusk. Further, the circulating blood reaching at the disease site is altered and become phlegmatic and then the disease site cannot be nourished properly <sup>17</sup>.

On the basis of *Rabban Tabri* and *Rhaze's* theory an inference can be drawn that the disease is caused by excessive *Barudat*.

*Ibn Rushd*, author of famous book "*Kitab-ul-Kulliyat*" mentioned that *bars* occurs due to derangement in the function of *quwwat-e-ghazia* and weakness of *quwwat-e-hazm*. Due to failure of these two *Quwa*, the nutrients reaching the tissues and retained there, but do not take the proper shape <sup>18</sup>.

### **Precipitating factors**

Various precipitating factors which trigger the *bars* described by the Unani physicians are summarized in table-1 <sup>2,19,20,21</sup>.

### **Alamaat (Clinical picture)**

The only symptom of leucoderma is presence of whitish spots on exposed areas of skin. Initially, it begins as a single spot and spreads into multiple spots which become whiter, as skin loses its pigment forming cells. The patches are initially small but gradually grow and change in their shape. The patches may be present on any site of body but are usually seen on face, hands, wrists and feet <sup>3</sup>.

*Ahmad bin Rabban Tabri*, well-known Unani physician, in "*Moalijat-e-Buqratiya*" mentioned that the lesions of *Bars* are glossy, even, and malleable to touch and it is due to *raddi fuzlat* (abnormal humors) but in some cases it neither even nor glossy and malleable and it is due to *ratubat-e- ghaleez*. Sometime the lesions are reddish due to presence of *dam* (blood) <sup>22</sup>.

### **Types of bars**

*Ahmad bin Rabban Tabri* described two types of *bars* in *Moalijat-e-Buqratiya*. In first type of *bars* the *fasid ratubat* (*bad humors causing bars*) accumulates at diseased site and reach out the bone or even penetrate the bone and it is hard to manage and sometime take very long time to respond. In second category of *Bars* the lesions are limited only between bones and skin and it react to treatment and easy to manage in short time <sup>22,23</sup>.

*Hakeem Akbar Arzani*, renowned physaician of Mughal Period, mentioned another form of *Bars* identified as *Bars Muntashir* (generalized leucoderma) caused by fault of *Quuwwat-e- Mughayyira-e- Badan*. Its treatment is difficult if it turns chronic <sup>24,25</sup>.

### **Differential diagnosis**

There are certain conditions that have resemblance with leucoderma and should be ruled out before making a diagnosis. These are as follows:

#### **a) Bahaq abyaz**

It is types of whiteness appear over the surface of skin and the unique feature between *bahaq abyaz* and *bars* is that *Madda-e-Bahaq* always remain superficial and does not infiltrate deep in skin. In *bahaq abyaz*, blood always comes out when needle pierce at the site of lesion and hairs never turns white at the diseased site. But in case of *bars*, *madda-e-bars* penetrate the skin and reach up to the bone and hairs over the affected part become white and affected part does not turned red after massage <sup>24</sup>.

**b) Albinism**

It is an inherited autosomal recessive condition occurs due to genetic abnormalities leading to reduced melanin synthesis in skin and eyes. This result in incomplete or complete lack of melanin pigment from the eyes, hairs, and skin surfaces.

**c) Pityriasis alba**

It is characterized by ill-defined, depigmented macules of varying sizes occurs mainly on face of children and caused by saprophytic staphylococci.

**d) Pityriasis versicolor**

It is characterized by slightly scaly hypo pigmented macules which usually appears around the hair follicles and then join together to cover the large areas on upper back, shoulders, upper chest and upper arms. Hands, forearms and lower limbs are generally not involved whereas neck and face are rarely involved.

**e) Juzaam (Leprosy)**

It is a chronic communicable disease caused by mycobacterium leprae. It may occur at any age and characterized by hypo pigmented anesthetic patch, symmetrical involvement of peripheral nerves and muscular weakness.

**f) Naevus anaemicus**

It is characterized by irregular shaped pale region on skin caused by vasoconstriction of cutaneous capillaries.

**g) Anetoderma**

It is characterized by small, well defined and depressed lesions below skin surface caused by elastic tissue degeneration. The lesion looks thin, shiny, inelastic, wrinkled and usually white in color.

**h) Phenylketonuria**

It is an autosomal recessive hereditary disorder. In this condition, due to deficiency of enzyme, body fails to oxidize phenylalanine to tyrosine<sup>26</sup>.

**Prognosis**

According to Ahmad bin Rabban Tabri, superficial form of *bars* cures without problems in short duration whereas deep variety is very hard treat and take long time to respond<sup>22</sup>. The usual response and duration of treatment varied from individual to individual. Hakeem Akbar Arzani mentioned that white patches, those become red on rubbing and having hairs, are curable<sup>24,25</sup>.

**Usool-e-Ilaaj (Management)**

Unani physicians use single as well as compound preparation and recommend both local plus oral medicines for treatment of bars.

In classical Unani literature, there are 4 principal approach of management for *bars* namely *Ilaj bit- tadbir* (Regimen Therapy), *Ilaj bit- Ghiza* (Dietotherapy), *Ilaj bit-Dawa* (Pharmacotherapy) and *Ilaj bit-Yaad* (Surgery)<sup>27</sup>.

In the classical Unani literature there is an immense explanation of treatment of *bars* and the fundamental principles of management are stand on followings:

- a) **Ilaj bit- Tadbir (Regimen Therapy)**
- b) **Ilaj bit- Ghiza (Dietotherapy)**
- c) **Ilaj bit-Dawa (Pharmacotherapy)**

**a) Ilaj bit- Tadbir (Regimen Therapy)**

To abolish the myth among the general populations that *bars* is a communicable disease like leprosy, Psychotherapy is given to patient and his relatives to building self-confidence and reassure its non-contagious character.

**b) Ilaj bit- Ghiza (Dieto-therapy)**

All Unani Physicians suggested that such diets should be given to *Bars* patients that are easily digestible, produce pure blood and have *har mizaj* (hot temperament). They suggested that patient of *Bars* must includes young goats meat and birds meat in their diet in large amount. They also suggested that some herbal digestive preparations added two hours after meals to accelerate the digestion and diet should be taken when needed as well as prefer those food items that increase heat and dryness insides the body. They also suggested that during the entire course of treatment, milk and all type of milk products are strictly avoided and all food items that hinder the melanin synthesis should be restricted. *Ibn-e-Sarabiyoona* suggested that milk and milk products, moist temperament vegetables and fruits, fish, and cold and moist foods items are avoided by *bars* patients.

**c) Ilaj bit-Dawa (Pharmacotherapy)**

In classical Unani literature it is mentioned that, *bars* is a *Muzmin marz* (chronic disease) and usually caused by disorder of *ghaleez balgham* (phlegmatic humour) as a result, majority of the Unani scholars advised that treatment of *bars* patients should begin with *Tanqiya-e-Badan* (elimination of unsafe material from the body). *Tanqiya-e-Badan* is done in three steps. These steps are following:

- a) Administering *Munjiz-e-Balgham* drugs till *Nuzj* appears.
- b) Followed by three *Mushil* (Purgative).
- c) Three *Tabrid* (Colingagents/drugs) alternatives with each *Mushil*.

Following drugs are used for this purpose:

- a) Use of *Munzijat-e-Balgham* drugs such as Anjeer-e-Zard (*Ficus Carica*), Bekh-e-Kasni (root of *Cichorium intybus*), Bekh-e-Badyan (root of *Foeniculum Vulgare* Mill), Gul-e-Banafsha (flower of *Viola odorata*), Bekh-e-Karafs (root of *Apium graveolens* Linn), Maweez munaqqa (*Vitis Vinifera* Linn), Panwad (*Cassiafora foetidian*) etc.
- b) Apply the Turbud (*Ipomoea turpethum*), Zanjabeel (*Zinjiber officinale*), Barg-e-sana makki (leaves of *Cassia angustifolia*), Ghareeqoon (*Agaricus albus*) etc. as a *Mushilat-e-Balgham*.
- c) Lastly, *Tabrid-e-badan* is achieved by the employ of Mubarridat drugs like Luab-e-Ishapgol (Mucilage of *Plantago ovate*), Sheer-e-Unnab (juice of *Zizyphus vulgaris*), Luab-e-Bahidana (Mucilage of *Cydonia oblonga* Mill), etc.

As soon as *Tanqiya-e-Badan* is achieved by application of *Munzij* and *Mushil*, *Ayarijat*, *Majeen-e-Harra*, and *Itrifalat* are prescribed to patient as well as use of specific drugs of disease mentioned in Classical Unani literature are recommended. Sometime the specific unani preparations (topical and oral) are given at the same time with *Adviyah-e-musakkina* (thermogenic drugs).

The patient is also advised to expose the affected part of body directly to sunlight followed by local relevance of medicine. This prove that Unani Physicians knew the fact that pigmentation process gets activated when affected part expose directly to sunlight.

Rhaze's has recommended various means of external procedures that have positive outcome in management. According to him, "application of sunlight exposure to lesions in early stages cures the *bars* and *bahaq*" and "multiple pricks on the lesions, use of diuretics cure the *Bars*"<sup>19,22,24,28,29,30</sup>.

Also explained to patient to do following things:

- To take the drugs on empty stomach twice a day.
- Apply the drugs locally once a day on the affected areas.
- Exposed the affected areas to direct sunlight firstly for short interval usually five to fifteen minutes.

After *tanqiya*, the patient's digestion should be corrected by means of easily digestible food usually of *har yabis mizaj* (hot dry temperament) that produces *dam-e-saleh* (pure blood) such as meat of birds and young goats. Nutritional disorders, deficiencies and worm's infestation of patients should be corrected.

## CONCLUSION

*Bars* (Leucoderma) is a common skin-depigmenting problem which results in disfiguration of the skin. Because of the known undesirable result and unavailability of safe and effective drugs in mainstream medicines, the various Unani single drugs and its compound preparations can be used as fantastic substitute for management of the disease. The ancient Unani drugs (single and compounds) have long evidence of efficiency in management of *bars* without producing any harmful effect on the human body. This article mainly focused on the management and conception of *bars* depicted by renowned Unani physicians. We may concluded that broaden of the facts of abundant storage of Unani components and broad-spectrum principle of disease treatment, used by Unani physicians since Greco-Arab period, shall be very effectual in the managing the disease.

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## Table-1: PRECIPITATING FACTORS:

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| <ul style="list-style-type: none"><li>➤ Zarba Wa Saqta (Naumatic injury)</li><li>➤ Asabi futoor (Neurogenic disturbance)</li><li>➤ Wirasat (Heredity)</li><li>➤ Trauma (Physical, Chemical, Emotional)</li><li>➤ Biological stress</li><li>➤ Local e.g itching, friction etc</li></ul> |
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