

# Psoriasis (Dau-S-Sadaf) with Reference to Unani Medicine and Modern Medical Updates

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## ABSTRACT

The Unani classical literature and manuscripts are rich sources of knowledge which must be brought on surface and revealed. The descriptions of diseases and disorders are either available with other terms or as per clinical sign and symptoms. The descriptions are required to be compiled and furnished in a sequential and more understandable manner for the medical world. After exhaustive review of authentic texts of Unani system and knowledge update of psoriasis, it was found that yet the modern medicine has no conclusive idea about the disease pathogenesis, while descriptions of Unani physicians have a lot of scope to be explored in terms of pathogenesis and treatment of psoriasis. Their descriptions show the idea and interest of Unani scholars in psoriasis like dermatological presentations. The provided principle of management and Unani pharmacopeia is a rich treasure that needs to be highlighted and its reverse pharmacological studies are demands of the time. The description of disease as per the humoral concept and concept of Tabiat and temperament is interesting and logical. The management based on blood purification, elimination of morbidity either direct or through concoctive and purgative principles is more effective than other so far available and trending modes of treatment. The morbidities of heavy molecular weights could be removed directly through cupping and leeching, which has an add on effect in the treatment process with blood purification and concoctive and purgative regimes.

**Keywords:** Taqashure-Jild, Dau-s-sadaf, Unani Medicine, Amraze Jild, Psoriasis, Blood purification

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## Introduction

It is extracted from the ancient literature that skin diseases were always the priority concern in all human civilizations and particularly of Greeks. Skin care, and its related disorders are mentioned even prior to most ancient manuscripts and literatures. Although the descriptions do not clearly mimic the disorders termed in later ages, they can be correlated as per the descriptions of lesions and other clinical manifestations, etc.

It obviously reflects that the knowledge in the field of fundamental medical sciences likewise anatomy, physiology, pathology and then histopathology was gradually generated, and the terms of diseases were evolved accordingly.

Therefore, the terms or descriptions were always proportional to the knowledge of mentioned area of medical sciences, and it is evident from ancient manuscripts to modern medical era.

The term psoriasis is given by the modern medical era and is therefore, not found in ancient texts, but similar descriptions are found in literature<sup>6</sup>.

## Historical Perspectives

In the Egyptian papyrus (300 BC), Hippocratic descriptions (460-377 BC)<sup>1,2,3</sup> similar features are mentioned but as a curse of divine forces. Even on commentary of Bible (70 AD) it is described as a leprotic manifestation and even up to middle ages all chronic scaling conditions were considered leprosy in either way<sup>3,4,5</sup>.

Hippocrates and his school (460-377 BC) provided meticulous description of many skin disorders<sup>1,2</sup>. In their description, dry scaly eruptions were grouped together under the

heading of “Lopoi”. This group probably included psoriasis and leprosy. Between 129 and 99 BC the word “psore” (meaning desquamatic condition) was first used by scholars for eyelid corner of the eyes and scrotum with excoriation and pruritis, though he called psoriasis but probably it was a type of eczema, and until the psoriasis was recognized as entity distinct from leprosy<sup>6</sup>.

In all ancient texts it is described either with leprosy or with chronic skin presentations such as scaling and chronic itching and it is always intermingled with eczema particularly dry eczema or a lichenified or parchmented lesion. But as the fundamental medical knowledge evolved, the terminology of disease became more and more objective; It was similar in case of psoriasis. The temporal profile as reflected from the ancient to middle age literature can obviously be understood which is as below.

Dry white scales over the effected parts with *tal* (*Abtrak*) was termed by eminent Unani physician [98-171 AD] as “*Talaq*”<sup>7</sup>. Rhazes (Razi) (850-731 AD) has given more profound description of disease presentation and even the management under the heading of *Taqashur-e-jild*<sup>8</sup>.

Similar descriptions are given by Avicenna (980-1037 AD) under the heading of *Qobae-e-Mutaqashira* in *Kitabul taiseer fil Madawaat wa tadbeer* by Ibne-Zohar (1091-1162 D)<sup>9</sup>.

The description under *Taqashure-jild* is quite similar to psoriatic presentations.

The description of Ibne Rushd (1126-1198 AD) is also important particularly in terms of pathognomonic features which are due to excessive abnormal black bile, but he has described the disease as a variety of leprosy<sup>10</sup>.

In Ayurveda, the ancient literature is also not clear about psoriasis but as evident from Chark Sanghita, Rogh Vigyan it is described under the heading of Kushtrogh, *Kusht Kutam* and

*Upnishad Kutam* and scaling are mentioned as key symptoms of lesions and lesions are described as anhydrotic.

The descriptions of medieval age physicians are more objective, in terms of understanding its etiopathology and also of management guidelines.

The Greek physicians like Akbar Arzani (1722 AD) and Azam Khan (1813-1902 AD) have given vivid description under the headings of *Taqashur-e-jild* and *Qashf-e-jild* was *Taqasshur-e-jild*. The treatise of Azam Khan, *Ekseer-e-Azam*, is a great milestone and torch bearer for the understanding of the disease relatively in more objective way<sup>1, 12, 13</sup>.

There is a clear paradigm shift as per the advancement of medical sciences and in 1840-41 AD F. Hebra described the clinical patterns and pathological features of psoriasis and differentiated it from leprosy lesions and gave the term psoriasis vivid and classified descriptions<sup>14</sup>.

Consequently, the work of F. Hebra was followed up and Von Zumbush (1874-1940), a German dermatologist, identified pustular psoriasis<sup>2, 3</sup>. Meanwhile (1938-1904 AD), H. Koebner, another German dermatologist, reported his logical observations in 1972 about the incidence in response to trauma and injuries on prone sites of body and also of its isomorphic phenomenon which is even known after him as Koebner phenomena<sup>15</sup>.

In early 19<sup>th</sup> century AD, Ghulam Jeelani carry forwarded the description of *Taqasshur-e-jild* and coined the term *Sadafia* and mentioned its management more profoundly<sup>16</sup>.

As the new advancements came, the concept of psoriasis got more strengthened. The discovery of Landsteiner for blood groups on the basis of antigens and advancement in genetics, proposed the genetic descriptions and HLA typing to understand not only psoriasis but also other

diseases in a similar way. HLA B13, B17, B37, CW6, DR7 are the key genes identified for such ailments and HLA CW6 are more commonly involved<sup>17</sup>. In 20<sup>th</sup> century AD, the disease was more clearly differentiated into types of presentation such as plaque pattern, pustular pattern, Guttate and flexural pattern of disease.

### Disease introduction

Psoriasis is a Greek word 'Psore' meaning disquantive / scaly conditions and scales are the most pathognomic character of it<sup>6, 14</sup>.

In modern Unani Medical literature it is commonly termed as *Daus Sadaf*, meaning of *Da'a* = disease and *Sadaf* = pearls resembling its scales with dry shells of snails or pearls.

To bridge the gap of terminology from *Talaq*, *Taqashshur*, *Muteqasshere*, *Al-Sadfia*, it was necessary to resolve and use one terminology for its better understanding at par to psoriasis. The modern Unani scholars described it under the heading of *Da us-Sadaf*.

The Unani scholars whose descriptions are always given due considerations are: Zakrai Razi<sup>18</sup>, Majoosi and Ibn hubal, mentioned it under *Saafa-e-yabis* and described the character similar to *Da-us-Sadaf*<sup>19</sup> (psoriasis).

The description of Roofas is quite accurate as mica like (micaceous) scales which are dry enough and shiny and he termed it *Abrak*, *Talaq*.

Ibne Zohar's description are add on that of itching and erythema.

In *Kitabul Umdah Fil Jarahat* by Ibn al Quf fishy scales and impetigo like lesions are mentioned in its description<sup>9</sup>. Similarly, as per the description of Akbar Arzani, rough, dry thick scaly conditions on affected parts<sup>12</sup>.

In characterization and classification of diseases, modern medical literature has enlightened more profoundly about the insight of

diseases and similarly, about psoriasis. However, psoriasis is a very common chronic and immune mediated, polygenic recurrent inflammatory disorder of the skin.

Several environmental triggering factors, trauma infections or medication may elicit disease in predisposed individuals<sup>6</sup>.

The most characteristic presentation is erythematous, scaly, indurated plaques particularly over extensor body surfaces and scalp.

The disease has enormous variables in duration, periodical flare up and extent.

Histopathologically, hyperkeratosis, parakeratosis, acanthosis of epidermis, tortuous and dilated vessels and inflammatory infiltrate mainly composed of lymphocytes are observed.

Psoriasis is always considered as a symptomatic disease in which patients may have a chance to develop psoriatic arthritis, cardiovascular disease and metabolic syndrome<sup>6</sup>. Many studies report association of psoriasis with hepatitis 'C'. Psoriasis always has direct impact on quality of life<sup>6</sup>.

### Prevalence

After going through Unani literature, no conclusive study with report of its prevalence is found there. In modern literature, several studies have been reported regarding its prevalence within the country and worldwide. But most of the modern scholars admit that it is difficult to ascertain accurate figures about epidemiology and morbidity of psoriasis because the diagnostic criteria yet have been validated and patient ascertainment techniques varies. Nevertheless, it is driven that psoriasis is a common skin disease worldwide<sup>20</sup>. In most reviews the prevalence is said to be 2% of world's population. However, in USA, and Canada prevalence is as high as 4.6%

and 4.7% respectively. This contradicts with frequencies in Africans, Norwegian and Asians of between 0.4% and 0.7%<sup>11</sup>.

The incidence of the disease in a given population in a defined time has been estimated to 60 individuals per 100000, per year<sup>20, 21</sup>. The studies provide support for seasonal variation, with 68% of cases first diagnosed particularly in winter and spring seasons. The annual incidence of psoriasis has doubled in the last 30 years between 1970 and 2000 as per the data of recent US study<sup>20, 22</sup>.

Psoriasis may first appear at any age, from infancy to the 8<sup>th</sup> decade of life. Two main peaks in age of onset have been reported, one at the age of 20-30 years and second at 50-60 years. In approximately 75% of patients, the onset is prior to the age of 40 years<sup>[11]</sup>. Though the age of onset is earlier in females than in males, both are equally effected<sup>23</sup>. There is no incidence that the disease has phenotypic difference between the sexes.

### Etiology and pathogenesis

The etiology is multifactorial, and lot of key factors play a pivotal role in the psoriasis<sup>24, 25, 26, 27, 28, 29</sup>.

As per the basic concept of Unani medicine, the disease can be understood on the concept of temperament and Humors. *Su-e-mizaj-e-jild* may predispose several dermatological ailments and if it becomes stagnant (*Mustahkam*), the cell biology of skin alters and it may invite the chronic dermatological presentation. It has been observed in psoriatic lesions that there are extreme dryness and scaling. The extreme dryness indicates the involvement of abnormal black bile; while the underlying erythema and itching somehow give a clue of involvement of *safra muhtaraq* (oxidized *safra*) converting finally into black bile.

The chronicity of disease and its seasonal

irritation also indicate the involvement of varied temperamental factors. The temperamentology can be better understood with the help of genetics, both by understanding phenotyping vs temperament and also genotyping vs temperament in various cross sections of population. Though the disease has its prevalence in certain races, there are more aggravates in certain seasons and also changes of its prevalence on genotypic variations. Therefore, HLA typing gene identification and raised level of certain genes in certain individuals can be better understood if the temperament is assessed properly.

### **Humours** <sup>9,10,13,30,31,32</sup>

As per the description of Unani scholars, no single humoral etiology is found to be responsible for the disease; but they have mentioned varied humoral involvement in the genesis of psoriasis like pictures.

#### **1. Abnormal Black Bile**

The black bile may be abnormal both in terms of quality (*Kaifat*) or quantity (volume). The production of natural black bile has its natural discourse but it may be oxidized or produced by oxidation of other humours i.e. *Safra*, (bile) *Balgham* (Phlegm).

Therefore, presentation of disease has variation. Unani scholars have found the following abnormal humours to be responsible in its etiology apart from *Sauda-Ghair Tabai* (Abnormal black bile)

- *Khilte Haneef wa Laza* <sup>7</sup>
- *Khilte Sauda Muhtaraq* <sup>13</sup>
- *Balgham Shor* <sup>10</sup>
- *Balgham Zujaji* <sup>33</sup>
- *Khushk Boraqi Madda* <sup>19</sup>

### **Genetic Factors**

There is substantial evidence that psoriasis has a significant genetic component. Incidence of

psoriasis is found to be higher amongst first and second degree relatives of patients than unaffected control subjects <sup>34</sup>. A study performed in Sweden showed the prevalence of psoriasis to be 7.8% in first degree relatives compared with a prevalence of 3.14% in matched controls and 1.97% in overall population <sup>35</sup>. Based on such population data, a number of investigators have calculated the risk for a child to develop psoriasis. As per a German study, the risk was found to be 14% if one parent was affected, 41% if both parents were affected, and 6% if one sibling was affected, compared to 2% when no parents or sibling was affected <sup>36</sup>.

Supports of such population studies come from analysis of a range of family pedigrees in which psoriasis appears throughout multiple generations <sup>37</sup>.

The above studies have concentrated upon chronic plaque form psoriasis, the most common variant.

### **HLA Studies** <sup>26,27,38,39</sup>

Human Leukocytic Antigens (HLA) are surface antigens on human cells, and the subsequent chromosomal region is called the major histocompatibility complex (MHC). It is located on the short arm of chromosome 6. Psoriasis is linked with HLA-CW6, and delayed age of onset has strong link with the HLA-CW6.

Some dermatologists designated patients with early onset of psoriasis with positive family history and expression of HLA-CW6, as type-1 psoriasis; while individuals with late onset, no family history and lack of expression of HLA-CW6 were regarded as type-2 psoriasis <sup>6</sup>.

### **Immune Pathogenesis**

There is considerable and significant amount of evidence that T-lymphocytes play an important role in development of plaque psoriasis. Innate

immune system that provides an early response against harm to the host is dysregulated in psoriasis<sup>40</sup>. And the innate immune mechanism leads to antigen driven T-cell expression and activation.

In the skin, various cell types are involved in innate immune response pathways. These include dendrite cells (DCs), natural killer (NK)-T cell and neutrophils as well as keratinocytes<sup>40</sup>.

**Triggering Factors:** Both external and systemic

**External factor:** The Koebner phenomenon observed in approximately 25% of patients with psoriasis.

Any particular patient may be “Koebner negative” at one point of time and later may become “Koebner positive”.

Koebner phenomena postulate that psoriasis is a systemic disease that can be triggered locally in the skin. A psoriatic lesion can also be induced by other forms of cutaneous injury. A wide range of injurious local stimuli including physical, chemical, surgical, electrical, infective and any inflammatory insult, are predictable to illicit the lesions<sup>20, 34</sup>.

Sunlight is generally beneficial, but aggravation of disease in strong sunlight and summer exacerbations in exposed skin is reported in some patients<sup>20</sup>.

### **Koebner and reverse Koebner phenomena**<sup>20,41-44</sup>

The Koebner reaction is often seen 7-14 days after injury, and the reported incidence varies between 38 and 76% of patients with psoriasis. All-or-none phenomenon occurs at various sites of injury. Clearing in existing lesions following injury has been observed and termed as reverse Koebner reaction. This reaction also obeys an all-or-none rule, and the Koebner and reverse Koebner reactions are mutual. Using standardize

injury, a study found that 25% of patients express a Koebner reaction and 67%, reverse Koebner reactions.

Moreover, the Koebner reactions are often considered to be more frequent in actively spreading, psoriasis. This might be true, but yet to be established by perspective studies.

### **Systemic triggering factors:**

#### **Infection**

Acute Guttate psoriasis has strong association with streptococcal infection, particularly of upper respiratory tract<sup>35</sup>, and HIV infection aggravates psoriasis, too<sup>35</sup>.

#### **Drugs**<sup>35</sup>

Anti-malarial Beta Blockers, NSAIDs, ACE inhibitors, lithium salts, withdrawals of corticosteroids are reported to be responsible for exacerbation of psoriasis.

**Metabolic factors:** Hypocalcemia is reported to be a triggering factor for pustular psoriasis, while vitamin D3 analogues improve psoriasis<sup>20</sup>.

Pregnancy may alter disease activity and 50% of cases reported improvement but pregnant women may develop pustular psoriasis, which may be association with Hypocalcemia<sup>20</sup>.

**Psychogenic Factors:** Stress is an established triggering factor in psoriasis<sup>45</sup>.

**Smoking and Alcohol:** Alcohol consumption and smoking have a detrimental effect on psoriasis<sup>25</sup>. Studies suggest that alcohol exacerbate the pre-existing disease, too but has no role in inducing the disease<sup>46</sup>.

#### **Pathogenicity**<sup>47, 48</sup>

It is very obvious from the ancient texts of Unani medicine that this disease is not mentioned anywhere with the name of psoriasis; therefore, the description of pathogenicity of it is also

lacking. The Unani scholars described it with the name of *Talaq*, *Abrak*, *Taqashshur-e-jild*, *Saafa*, *yabis*, *Qashaf-e-jild*, *Al-Sadafia* etc. and thus, the cumulative analysis indicates that Melancholic (Black bile) humour is responsible in larger extent when it becomes deranged with abnormalities per se and become a morbid humour.

As per the description of Ibn Zohar, the morbid melancholic humour of body migrates from inside towards skin and gets accumulated in skin. As a result, the skin tries to remove it in his own defense, and also to get proper nutrition and health; consequently, a condition of scaling takes place. Moreover, the temperament of *Sauda* (Melancholic humour) is cold and dry; thus, there is dryness in scales.

The formation of morbid black bile (Melancholic humour) may be from *Khilt-e-Sauda* by itself or by *Khilt-e-Safra* (Bile), and sometimes it is due to *Khilt-e-Balghami* or by *Akhlate Ghaleeza* after their *Ihteraq* (Oxidation)<sup>47</sup>. Abnormal black bile is always considered as one of the *Khilte Ghaleeza* that do not expel out easily. Therefore, the *Quwwat-e-Mudabbira-e-badan* becomes hyper responsive and as a result, the skin turns over time to have many folds<sup>47</sup>.

At the site of lesions, it has been observed that there is marked erythema and vascular dilatation and tortuosity which is due to hyper responsive immune system or as per se *Quwwat-e-Mudabbira-e-badan* or *Quwwat-e-Tabiyah*.

Histopathological analysis also shows the finding of various defense markers, inflammatory markers both cellular and chemical forms, that strengthen the above concepts of pathogenicity.

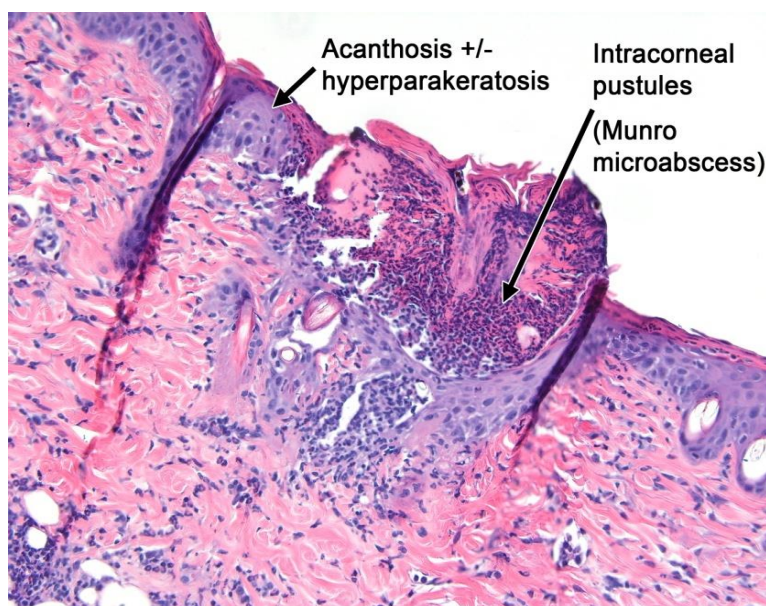
Psoriasis is considered a systemic and multifactorial disease by modern medical scholars. The Unani concepts and overview also advocates the nature of pathology as systemic and therefore manifestation may be

with psoriatic disease arthritis, cardiovascular disease, metabolic syndrome 'X', etc. The morbid melancholic humour may manifest with individual variations depending upon the original condition of body temperament (*Mizaj*) and condition of innate immunity (*Quwwate Mudabbira-Badan*) and power of *tabiat*<sup>15, 47</sup>.

Various studies and techniques confirmed that the hyperproliferation of keratinocytes observed in psoriasis, is mainly due to an increase in the proliferating cell compartment in the basal and supra basal layers of epidermis and not because of shortened cell cycle duration. The number of cycling cell is increased by seven folds<sup>20</sup>. The proliferation is mainly driven by a complex cascade of inflammatory mediators. T-cells and cytokines play central role in the pathophysiology of psoriasis. The conceptual descriptions in Unani medicine per se is that the skin tries to eliminate and expell the abnormal morbid matters in its own defense; As a result, the changes like scaling eruption and erythema arouses which are the pathognomonic characters of the disease. The morbid melancholic humour of body migrates towards skin from inside and gets accumulated in skin (Ibn Zohar). As a result, the skin tries to remove it in his own defense, and also to get proper nutrition and health; Consequently, a condition of scaling takes place.

### Histology

Histologically, all psoriasis is pustular, and the microscopic pustules include spongi form intra-epidermal pustules, and Munro micro abscess within the stratum corneum. There is focal parakeratosis within the stratum corneum, neutrophils are above parakeratosis foci, particularly in plaque psoriasis. Neutrophilic micro abscesses are generally present at multiple levels in stratum corneum. There is epidermal



**Histopathology of psoriasis** (Courtesy: Jem.rupress.org)

acanthosis and dilated capillaries with features of spongiosis<sup>49</sup>. This is again strengthening the concept of accumulation of abnormal humors at the site of pathology and micro dilatation of capillaries as well as micro abscesses might be because of those morbid humors.

### **Clinical Description**

The appearance of a typical lesion is characteristic. Chronic plaque psoriasis is the most common variant of psoriasis vulgaris, characterized by sharply demarcated erythematous and papulosquamous lesions. Less often, nearly the entire body surface is involved or numerous, small, widely disseminated papules and plaques are seen. Occasionally, there are obvious macroscopic pustules, as in generalized pustular psoriasis or pustulosis of the palm and

soles.

From a clinical point of view, psoriasis can present with a range of cutaneous manifestations. At any one point of time, diverse variants may coexist in individuals, but the lesions share the same important hallmark: erythema, indurations and dry scaling. As noted in the section of epidemiology and genetics, there is also significant inter individual variability. For example, in patients with chronic plaque psoriasis, those with type I disease (HLA-Cw6<sup>+</sup>) have an earlier onset, more widespread disease and frequent recurrence, compared to those with type II psoriasis.

The size of lesion may vary from a pinpoint lesion to a papule of over 20 cm in diameter; The outline of the lesion is either circular, oval or polycyclic. The classical findings of erythema, thickening and scales are reflection of the



histological findings of dilated capillaries that are close to the skin surface and also the epidermal acanthosis, cellular infiltrates and hyper keratinization, respectively.

### **Course of prognosis<sup>6,20</sup>**

The prognosis remains unpredictable, 'Psoriasis of all forms are very troublesome and often, an intractable disease, but it is seldom dangerous to life<sup>50</sup>. 'It is impractical to say, in any particular case, how the disease will last, whether a relapse will occur, or for what episode of time the patients will remain symptoms free<sup>51</sup>. In a study, only 5 (33%) out of 15 patients developed chronic plaque form of disease, a decade after an initial episode of guttate psoriasis<sup>52</sup>. An early onset having positive family appears to worsen the prognosis<sup>53</sup>.

The sunlight and summer are found favourable<sup>43, 54, 55</sup>, pregnancy has no effect in approximately half of patients<sup>43, 55</sup> rather improvement at some extent are reported than worsening.

### **Relapse**

Relapse is the rule, a study suggests only three of 260 patients in one series<sup>43</sup> reported to be clear for 5 years or more and the rest hardly for 6 months. In another series, only three out of 95 were reported clear for 5 years or more. Another 7 years follow up of 142 patients<sup>56</sup> indicated that intensive outpatient treatments have more remissions than those treated at home. Guttate lesions were reported to have the best prognosis.

### **Association with other diseases<sup>6,20</sup>**

There has been extensive discussion on whether psoriasis occurs more frequently in association with other diseases or not. This applies particularly to metabolic disease, because the changes occur in the body during the course

of the disease, which produce the suspicion of combination with other diseases, although there is no confirmation of this.

### **Diagnosis**

Diagnosis of the psoriasis depends on the following points.

- Family history of psoriasis
- Presence of lesion at particular sites e.g. elbow, knee, scalp, back and nails.
- Lesions covered with silvery scales.
- Candles grease sign, Auspitz sign, Koebner Phenomenon.
- Itching
- Seasonal variations

Henery H has characterized the major and minor stigmata for the diagnosis of psoriasis.

- Major signs
- Intermediate signs
- Minor signs

### **Major Signs**

- Erythematous, usually sharply marginated plaques than often have silvery scales in hairy sites areas.
- Severe dandruff, often with marginated plaque.
- Nail changes
- Multiple pitting
- Dystrophic nails and nail separation without evidence of fungus and seronegative arthritis.

### **Intermediate Signs<sup>17</sup>**

- Hyperkeratosis, localized, with or without scaling on elbows, knees, ankles, soles, palms and knuckles.
- Pruritus ani or other intertrigo with sharp margination of erythema
- Corticoid-responsive penile macules, especially on the glans.

- Recalcitrant, scaly otitis externa.
- Persistent, localized patches of nummular eczema
- Sterile paronychia, often multiple.

### Minor Signs

- Eczematous plaques of palms, soles or both.
- Acute onset kertolysis like lesions of the palms or soles.
- Recurrent eczematous discoid eruptions of trunk and extremities.
- Koebner phenomenon: new lesion appearing at the site of trauma.

### Management

In Unani system of medicine, the management of psoriasis is very effective. The eminent Unani physicians like Ibn-e-Sina, Ghulam Jeelani, Akbar Arzani and Azam Khan have described the basic principles of treatment under the following headings.

### Excretion of morbid humours (*fasid akhlat*)

The disease is caused by morbid humours, mostly black bile (*Sauda*) that must be excreted from the body for maintaining the balance of humours. Excretion (*Tanqia*) can be done, after *munzij* to *khilt-e-Sauda*; use of purgatives like *joshandah-e-afteemoon* or *Fasd* (venesection), *Hijamah* (wet cupping), *taleeq* (Leeching), etc.<sup>12, 13, 60, 61, 62</sup> are the means to eliminate the morbidity directly.

### Use of blood purifying drugs

As per the Unani system of medicine, the skin diseases occur due to accumulation of unwanted metabolic products in blood. Thus, the drugs which help in purification process like *Barge-Shahatrah*, *Gule-Mundi*, *Unnab*, *Charaita*, *Neem*, etc. are used for the treatment of skin diseases<sup>12,</sup>

<sup>13, 61, 62, 63</sup>. The compound formulations like *Itrifal shahatra*, *Itrifal mundi*, *Itrifal Aftimoon*, *Majoone Ushba*, *Sharbate Musaffie-khoon*, etc. are common blood purifiers recommended.

### Use of Psoralens

The Unani medicines having psoralens and related alkaloids such as *Babchi*, *Atrilal*, *Injeer Dashti*, *Chaksu* etc are in use to treat the autoimmune dermatological disorders including Psoriasis.

### Local application of emollients and anti-inflammatory drugs

Many of the Unani physicians have emphasized on applying any emollient over the lesions frequently in the form of ointment or oil. Beside this, anti-inflammatory drugs should be applied locally to promote early healing e.g. *Roghane- Babchi*, *Roghane Kamela*, *Marhame Hina*, *Marhame Safeda Kashghari*, etc.<sup>9, 47, 61, 62</sup> along with sun exposure.

### Adjuvants

*Kushta Sadaf*, *Kushta Jast*, are helpful as hypocalcemia may be a predisposing factor and zinc has a role in chronic dermatological conditions including psoriasis.

### Hepato Protection

Unani scholars always advocate for the protection as well as tonics for liver which is the prime seat of all metabolic, hematological, and immunological disorders. Thus, the drugs should be liver friendly or supportive to liver actions. Modern medical updates also found the involvement of liver as co-morbidities associated with psoriasis.

The following regimes are used in modern system of medicine.

**Antimitotic or cytotoxic agents.**<sup>14, 26, 27, 64-68]</sup>  
Methotrexate, Azathioprine, Cyclosporin, Retinoids like Acitretin, a derivative of vitamin A and Tazarotene.

### Photochemotherapy

**PUVA Therapy:** A treatment with oral or topical psoralen and subsequent long-wave ultraviolet-A radiation is known as PUVA therapy. Parrish et. al. introduced it in 1974.<sup>14, 25, 26, 64, 67-69</sup>

### Topical therapy

#### *Antipsoriatic agent*

- **Topical corticosteroids:**<sup>14, 25, 67, 69</sup> Various topical corticosteroids are successfully used in the treatment of psoriasis. Clobetasone is the most potent of the currently available topical corticosteroids. But the recurrence is more common when the local steroid treatment is withdrawn.
- **Anthralin also called Dithranol.** It has a cytostatic and a strong anti-inflammatory effect.
- **Tars.** It acts as an anti-bacterial, antifungal, anti-pruritic, antiacanthotic, anthrophogenic and photosensitizing.
- **Vit-D.** Analogue such as Calcipotriol. It reduces the epidermal cell proliferation and inhibits T cell proliferation in response to IL-1, and is used as a 0.005% ointment for the treatment of stable plaque psoriasis.<sup>27, 68</sup>

### Keratolytic agents

Salicylic acid is used in the treatment of psoriasis, generally as a 2% to 10% ointment applied twice daily over a thick lesion. It causes shedding of scales of psoriasis lesions, by dissolving the intercellular matrix and softening the stratum corneum.<sup>19, 63</sup>

### Biological Agents<sup>6, 20</sup>

Biological agents such as alefacept, efalizumab, etanercept, adalimumab are the recently introduced agents, which are used in certain clinical setup but they are long term benefit outlays. The hazards, is still a matter of question. Therefore, these alternative biological agents need further exploration.

### Dialysis and related therapies<sup>20, 70, 71</sup>

An incidental clearance of psoriatic lesion during hemo-dialysis for uremic condition was reported in 1976. Similar experiences with both hemo-dialysis and peritoneal dialysis are also reported. It is obvious that dialysis could favorably influence psoriasis patients with normal renal function. Possibly the substances of heavy molecular weight could be removed easily in larger quantities. Although some patients clear completely but relapse is reported afterwards. Similarly, in Unani medicine the bloodletting either by wet cupping, venesection or through leeching are in practice and reported to be effective and most probably it is because the removal of morbidities are more instant and in an easier way. Therefore, several studies are in favor of such intervention in psoriasis.

### Conclusions

In Unani classical literature, the disease psoriasis is described as *Taqshure-jild* and *Daus -Sadaf*. The morbidity is of melancholic predominance, and the appearance of lesions is in response to skin's own defense during the elimination of morbid matter through it.

The concept of blood purification is unique and the strength point of Unani medicine and is the basis of treatment of skin disorders including psoriasis.

The concept of direct removal of morbid substances particularly of heavy molecular weight through *Hijamah*, *Fasd*, *Leeching*, are unique and therapeutically better options and have better outcomes compared with systemic and local medicines recommended and practiced.

The liver supplements most often advised simultaneously, are the best way to counter co-morbidity like Non-alcoholic Fatty Liver Disease (NAFLD).

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