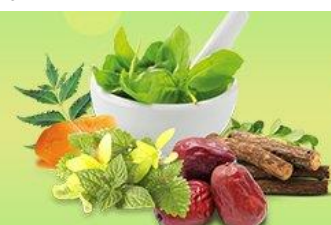


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Effectiveness of treatment of acne vulgaris (Busūr labaniyya): A comparative review between modern and unani medicine

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Abstract

Acne vulgaris (busūr labaniyya) is a chronic inflammatory skin disorder of pilosebaceous unit that affect areas containing the largest oil glands, including the face, back, and trunk. Comedones, papules, pustules, cysts, nodules, and occasionally scars are characteristics of acne. The aim of this study was to explore the evidence in the management of the disease through Unani medicine and to study different aspects of busūr labaniyya in comparison with modern medicine. Increased resistance has developed in acne causing bacteria, due of excessive use of antibiotics in its management for long durations. Many herbal remedies are being used for treatment of acne which is safe and effective. Detailed management of the disease is mentioned by Unani scholars in their classical literature which is safe and effective. These include number of single herbs and compound herbal formulas as well as dieto-therapy and other regimes.

Keywords: Acne vulgaris, busūr labaniyya, unani medicine, herbal medicine

1. Introduction

Skin is the protective covering of the body therefore any disease of skin causes great deal of misery, suffering, incapacity and economic loss^[1]. Acne vulgaris is one of the most common diseases of the skin especially during adolescent which can suppress an individual's self-esteem with regard to physical appearance^[2]. Permanent scarring of the skin associated with severe acne that causes the social distress throughout adulthood^[3]. Acne vulgaris is a chronic inflammatory skin disorder of pilosebaceous unit that affect areas containing the largest oil glands, including the face, back, and trunk^[4, 5, 6], characterized by comedones, papules, pustules, cysts, nodules, and occasionally scars. Follicular hyperkeratinization and sebaceous hypersecretion due to androgen stimulation, along with follicular colonization by Propionibacterium acnes, are pathological features of acne. It affects the face, anterior chest and upper back^[7]. Busūr labaniyya (eruptions of milk) is the term used for acne vulgaris in Unani system of medicine; this is because of whitish discharge which resembles milk. It is also termed as mohasa or keel. Ibne Sina renowned Unani physician mentioned in his treatise, Canon of Medicine, that mohasa are small white eruptions that appears on the nose, cheeks and resembles condensed drops of milk^[8].

It may be considered almost a universal disease affecting all races and occurring in 95% of boys and 83% of girls. The prevalence of acne in adolescents, adults and ethnic groups varies among countries^[9]. Acne was observed in 27.7% of students' aged 10-12yrs and in 93.3% of adolescents aged 16-18yrs in a study conducted in Australia. A study in Peru reported a prevalence of 16.33% and 71.23%, in students aged 12 and 17yrs, respectively^[9]. In Belgium and China, high prevalence in adolescents has been reported i.e. about 90%, while in England it is estimated at 50%. It is generally assumed that acne occurs in 70-80% of adolescents^[10, 11]. In the US, acne is the fourth most common reason for seeking medical consultation among the patients aged 11-21yrs, and it accounts for 4% of all visits from patients aged 15-19yrs^[12, 13]. In Brazil, 14% of all dermatological consultations are because of acne and it affects genders, different ethnicities and all age groups, predominantly in the first three decades of life^[14]. Prevalence rates ranging from 28.9-91.3% has been shown in different studies in adolescents.

Excessive use of antibiotics for long periods of time has led to the increased resistance in acne causing bacteria i.e. P. acnes, S. epidermidis and S. aureus. The development of antibiotic resistance is multifactorial, including the specific nature of the relationship of bacteria to antibiotics, antibacterial usage, host characteristics, and environmental factors.

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To counter the problem of antibiotic resistance, medicinal plants have been extensively studied and used as alternative treatments for diseases [15]. Unani medicine provides a successful treatment for many skin diseases. Several medications have been reported to be effective in busūr labaniyya. Hence, attempt has been made to study busūr labaniyya and its treatment in comparison with Modern medicine.

2. Methodology

The author searched the Unani medicine books for information related to busūr labaniyya. Important textbooks of Unani medicine were reviewed. Al-Qanoon fil Tib of Ibne Sina, Al-Moalijat Buqratiya of Abu al hasan bin Mohammad Tabri, Kitab Al-Mansuri of Zakariya Razi, Ghina Muna of MH Quamri, Kitab al-Mukhtar fil-Tib of Ibn Hubl Baghdadi, Khazainatul-Advia of Najmul Ghani for information on busūr labaniyya and Unani drugs. Major scientific databases namely Pubmed, Science Direct and Springer were searched. The search words used were 'Acne Vulgaris and Unani', 'Acne Vulgaris and Busūr Labaniyya', 'Herbal Medicines and Acne Vulgaris'. Internet search on the same search engines and also on Google Scholar was done to search for scientific evidence regarding Unani drugs in the management of busūr labaniyya.

3. Discussion

3.1 Modern Perspective

Comedone, inflammatory lesions with presence of bacteria



Fig 1: Stages of Acne

Many allopathic drugs like adapalene, retinoic acid containing drugs, clindamycin, benzoyl peroxide etc. and their combination therapies in suitable formulations are being used in the treatment of acne vulgaris. But the problem with these drugs and their combination therapies is that they have recorded side effects [20]. It is also recommended that topical retinoid are not to be used in pregnancy or by women of child bearing age, who are not taking adequate contraceptive precautions. Azelaic acid has been reported to be associated with itching, stinging, burning and erythema. Use of benzoyl peroxide is associated with adverse effects, including dryness, scaling, burning, tingling, and redness. Isotretinoin was associated with severe erythema, dryness, soreness and burning. Topical tetracycline use was associated with skin discoloration. Erythema, peeling, burning and pruritus were associated with use of tretinoin. Doxycycline, erythromycin, lymecyclin, minocyclin, oxytetracycline and tetracycline are commonly used oral antibiotics for the treatment of acne. It has been reported that use of erythromycin, lymecycline, minocycline, oxytetracycline may cause contraceptive failure. Tetracycline may harm bones and teeth and should not be taken by pregnant or breast feeding women [21].

3.2 Unani perspective

Hyperactivity of ghudud-e-dohaniya (sebaceous glands) has

propionibacterium acnes, staphylococcus epidermidis and staphylococcus aureus in the follicular canal and increased sebum production are characteristic features of acne vulgaris [16]. Propionibacterium acnes role has been demonstrated in the development of inflammatory acne because of its ability to metabolize sebaceous triglycerides into fatty acids, which chemotactically attract neutrophils. On the opposite, S. epidermidis, an aerobic organism, usually causes superficial infections within the sebaceous unit. When the chemicals produced by P. acnes destroy the cellular structure of skin cells, Staphylococcus aureus grows, causing acne lesions. P. acnes, S. epidermidis and S. aureus are the target sites of anti-acne drugs [17].

The pathogenesis of acne vulgaris is multifactorial [18]. The key factor is genetics. Following four factors are responsible for development of acne:

- Follicular epidermal hyper-proliferation with subsequent plugging of the follicle.
- Excessive sebum production.
- Presence and activity of the bacteria P. acnes.
- Inflammation

Acne may be classified according to predominance of specific skin lesions [19] (Fig.1).

- Comedonal (non-inflammatory)-mild
- Papular (inflammatory)-mild to moderate
- Pustular (inflammatory)-moderate
- Nodulocystic-severe

been considered as main cause of busūr labaniyya by Unani physicians. This hyperactivity causes increased production of oily material, which gets clogged into the openings of sebaceous glands, these glands are then inflamed and get suppurated and filled with pus [22, 23, 24]. Maddah-e-sadeedi (Ichorous matter) stuck within skin pores has been considered a causative factor [25]. Due to efrat-e-hararat (increased abnormal heat), maddah-e-sadeedi reaches to the skin and does not resolve easily from the pores [22] or it can be said that madda-e-sadeediyah originates due to the bukharat-e-badan (gaseous/vaporous matter), which are transferred towards the skin [8]. These vaporous materials accumulate in the skin and their raqeeq (light) ingredients get transformed into a thick fluid due to the affect of air. These thick materials block the skin pores as they are not easily resolved and transforms into liquid of busūr labaniyya [26]. There are many causes which lead to the above described pathogenesis, such as disturbances of the blood (impurities), use of hot diets, use of alcohol, indigestion, menstrual disturbances, etc. [22, 27].

Usool-e-Ilaaj (principle of treatment)

- Tanqiya-i Badan O Dimagh (evacuation of body and brain) followed by Itaf-e-Dam (to modulate the heat of sanguine) [25].
- Tajliya (topical cleansing) by Jali Adviya (detergent drugs) [25].
- Tahlil o Tajfif (resolution & desiccation) when Tajliya

(cleansing) is ineffective [25].

3.3 Unani medicines famous for their efficacy in busūr labaniyya

The use of natural remedies is a highly approached in human health [28], in particular cosmetics with an ongoing

search for novel biologically active botanical agents [29]. Unani medicinal plants have been used in acne treatment. Therefore, plants that are currently used and those reported in research studies to be effective in the treatment of acne vulgaris are summarized in Table. 1:

Table 1: Unani medicines effective in the treatment of acne vulgaris

S. No.	Medicinal plant	Unani name	Actions in acne	Reference
1.	<i>Achyranthes aspera</i>	Chirchita	Anti-androgen	[30]
2.	<i>Allium cepa</i>	Piyaz	Anti-bacterial, anti-fungal	[31]
3.	<i>Aloe vera</i>	Elva	Anti-bacterial, anti-inflammatory	[32]
4.	<i>Andrographis paniculata</i>	Chiraita	Anti-oxidant, anti-inflammation, anti-androgen, anti-bacterial, blood Purifier	[33]
5.	<i>Asparagus officinalis</i> Linn.	Haleeyoon	Deobstruent	[5]
6.	<i>Astragalus sarcocolla</i> Dymock.	Anzroot	Desiccative	[34]
7.	<i>Azadirachta indica</i>	Neem	Anti-bacterial, anti-inflammatory, blood Purifier	[32]
8.	<i>Boswellia serrata</i> Roxb.	Kundur	Anti-septic	[34]
9.	<i>Camellia sinensis</i> Linn.	Chai Siyah	Anti-inflammatory, 5 α -reductase inhibitory	[35]
10.	<i>Casuarina equisetifolia</i>	Jangli Jhau	Anti-bacterial, anti-inflammatory, astringent	[36]
11.	<i>Cinnamomum zeylanicum</i> Blume	Darchini	Anti-bacterial, deobstruent, absorbefacient	[37]
12.	<i>Calendula officinalis</i>	Gule ashrafi	Anti-bacterial, anti-inflammatory	[38]
13.	<i>Commiphora mukul</i>	Muqil	Anti-bacterial	[39]
14.	<i>Curcuma longa</i>	Haldi	Anti-bacterial, anti-inflammatory	[32]
15.	<i>Cyperus rotundus</i> Linn.	Nagarmootha	Anti-inflammatory, resolvent, anti-septic	[34]
16.	<i>Embelia ribes</i>	Baobarang	Anti-septic, anthelmintic	[3]
17.	<i>Glycyrrhiza glabra</i>	Aslussus	Anti-bacterial, anti-inflammatory,	[40]
18.	<i>Hemidesmus indicus</i>	Ushba	Anti-bacterial, anti-inflammatory, blood Purifier	[32]
19.	<i>Iris ensata</i> Thunb.	Irsa	Anti-inflammatory, resolvent, detergent	[34]
20.	<i>Jasminum officinalis</i> Linn.	Chameli	Resolvent, detergent, anti-bacterial	[34]
21.	<i>Lavendula stoechas</i>	Ustukhuddus	Waste remover	[5]
22.	<i>Lens culinaris</i>	Masoor	Anti-oxidant, anti-inflammation, anti-androgen, anti-bacterial	[33]
23.	<i>Matricaria chamomilla</i> Linn.	Baboonna	Anti-inflammatory, resolvent, detergent	[34]
24.	<i>Ocimum sanctum</i>	Rehan	Anti-oxidant, anti-inflammation, anti-bacterial	[41]
25.	<i>Olea europaea</i> Linn.	Zaitoon	Anti-inflammatory, demulcent, emollient	[34]
26.	<i>Papaver somniferum</i> L.	Tukhm Khashkhash	Anti-bacterial, mild astringent, emollient	[37]
27.	<i>Picrorrhiza kurroa</i>	Kutki	Anti-inflammatory	[3]
28.	<i>Psoralea corylifolia</i>	Babchi	Anti-bacterial	[3]
29.	<i>Rauvolfia serpentina</i>	Asrol	Anthelmintic, anti-inflammation, anti-bacterial	[42]
30.	<i>Rosa damascus</i>	Gule surkh	Anti-inflammatory, emollient	[5]
31.	<i>Rosmarinus officinalis</i>	Iklyl aljabal	Anti-oxidant, anti-bacterial	[43]
32.	<i>Salmalia malabarica</i>	Sumbul	Anti-oxidant, anti-inflammation, anti-androgen, anti-bacterial	[33]
33.	<i>Saussurea lappa</i>	Qust	Anti-inflammatory	[3]
34.	<i>Terminalia chebula</i>	Halela	Anti-bacterial, anti-inflammatory, blood Purifier	[32]
35.	<i>Tinospora cordifolia</i>	Gilo	Blood Purifier, anti-oxidant	[3]
36.	<i>Vetiveria zizanioides</i>	Khus	Refrigerant, detergent, anti-septic	[34]
37.	<i>Vitex negundo</i>	Sambhalu	Anti-oxidant, anti-inflammation, anti-androgen, anti-bacterial	[33]
38.	<i>Withania somnifera</i>	Asghand	Anti-bacterial, anti-inflammatory	[32]

4. Conclusion

Busūr labaniyya (acne vulgaris) is a multifactorial disease and many important aspects are required to be considered for its treatment. An integrated therapeutic approach can be adapted to attain the desired results. However, there are many medicines to choose from, plants are the natural source of medicines, which play an important role in the treatment of acne, without side effects. Therefore, they serve as commonly used alternate to synthetic medicines for acne. Further studies are also required to establish the effectiveness, safety, cost-effectiveness, and mechanisms of action of these natural drugs.

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