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Yuvan Pitika With Special Reference To Acne Vulgaris

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ABSTRACT

Acne vulgaris is a chronic inflammatory condition of skin in youth. In *Ayurveda*, acne has been elaborated as one of the *Kshudra Rogas* (minor ailments). It is manifested in adolescence thus called as *Yuvanpidika* or *Tarunyapitika*. Symptoms of *Mukhadushika* show close resemblance with bacterial infection and inflammatory factors of acne. According to *Ayurveda*, vitiation of *Kaphadosha*, *Vata Dosha* and *Rakta Dhatu* lead to acne development. *Kapha* vitiation may resemble with excess sebum production, Vata vitiation may resemble with hyperkeratinization and *Rakta* vitiation may resemble with inflammatory mediators in blood, play an important role in pathogenesis of acne. Both modern and *Ayurvedic* sciences have considered the use of topical as well as oral medications and their combinations for the treatment of acne. Modern medications provide relief from acne vulgaris but cause noticeable side effects. In *Ayurveda*, acne has been treated mainly by *Shodhana* (purification of body) and *Shamana* (conservative treatment) *Chikitsa* or combination of both. Though, several *Ayurveda* texts such as *Sushruta Samhita*, *Ashtanga Hrudaya*, etc., have elaborated the pathophysiology and treatment of acne, the available references are scattered. Thus, there is need of in-depth review and compilation of *Ayurvedic* texts and literatures. This review may be helpful in better understanding of comparative pathophysiology and management of acne vulgaris.

Keywords: Acne vulgaris, *Kshudra Roga*, *Yuvanpidika*, *Tarunyapitika*, *Mukhadushika*.

INTRODUCTION

Acne is a common chronic inflammatory condition of skin with significant cutaneous and psychological disease burden [1]. Acne affects both males and females, although males tend to have more with onset of puberty. Across the globe, acne affects 80% of individuals between pubescence and 30 years of age. Many research studies have reported acne in 79-95% in the age group of 16-18 years. In India, research studies have reported acne in 50.6% of boys and 38.13% of girls in the age group of 12-17 years [2,3]. Though, acne is not a life-threatening condition, the complications of acne such as permanent scarring effects on the quality of life and emotional well-being of person. [4,5] Acne vulgaris is related to the pilosebaceous follicle. It is considered as adolescent disorder which is characterized by formation of open and closed comedowns, papules, pustules, nodules and cysts. According to studies, several factors such as disturbed hormonal (androgen) production, excess sebum production, hyperkeratinization are involved in pathophysiology of acne. Accumulation of excess sebum, epithelial cells and keratin obstruct the pilosebaceous follicle. This obstruction causes formation of a keratin plug and follicle swelling below skin surface, resulting in acne lesion [6,7]. Colonized bacteria of skin such as P. acnes may cause severe kind of infection which leads to scarring and unpleasantness of face [7,11]. In modern medicine, several treatments are available for acne vulgaris but

treatment must comply with type and severity of the lesions. Treatment mainly includes prolonged use of antibiotics, comedolytic and anti-inflammatory agents. Though, these medicines are better treatment options for acne management, the side effects of these medications such as increase frequency and severity of skin dryness, scaling, erythema, burning, stinging, itching andbacterial resistance limits their use[11,13]. In Ayurveda, acne has been elaborated as one of the *Kshudra Rogas* (minor ailments). Acne is called as *Yuvanpidika* and *Tarunyapitika* as it manifested in *Yuva* or *Taruna* (adolescence). As the disease has local spread over the face and due to the inflammatory and scarring nature of lesions, acne is also called as *Mukhadushika[14,15]*. *Yuvanpidika or Tarunyapitika or Mukhadushikais* characterized by *Saruja* (mildly painful), *Ghan* (firm on touch), *Medogarbha* (filled with oil/sebum) and shape of *Shalmali Kantaka* (thorn of Salmalia malabarica) [16,17]. Many authors elaborated that acne is caused due to vitiation of *Kapha* and *Vata Doshas And Rakta Dhatu*. Vitiated *Doshas* And *Dhatus* cause obstruction of *Lomakup* (pilosebaceous unit) of skin which causes acne. Further, rupture of acne causes scar formation. Also, vitiation of *Vata* and *Rakta* leads to hyperpigmentation of skin [18,19]. In *Ayurveda*, mainly two types of *Chikitsa* (treatments) have been used to treat acne i.e. *Shodhana* (purification of body) and Shamana (conservative treatment by oral and topical medicines). *Shodhana* includes *Vaman* and *Nasya*, whereas *Shamana* includes *Lepa, Upanah* and *Kshara* application. Also, several *Ayurvedic* proprietary medicines are available in the market for the treatment of acne. [20,22] Ayurveda texts such as *Sushruta Samhita, Sharangadhara Samhita, Chakradatta* etc., have elaborated the pathophysiology and treatment of acne. There are few published articles on pathophysiology and treatment of acne vulgaris with regards to Ayurveda but the available references are scattered. Hence, there is need of in-depth review and compilation of Ayurvedic texts and literatures for better understanding of *Yuvanpidika or Tarunyapitika or Mukhadushika* and its comparison with acne vulgaris described in modern science. Subsequently, it is also important to share the traditional knowledge of Indian system of medicine i.e. Ayurveda to offer safe and effective alternative for acne vulgaris.

***Kshudra Roga* (minor ailment)**

Kshudra Rogas (minor ailments) are described in *Charaka Samhita, Sushruta Samhita, Ashtanga Hrudaya, Madhava Nidana, Yogaratnakar, Bhavaprakash, Chakradatta, etc*. The word *Kshudra* means 'minimum' i.e. with minimum *Hetu* (causative factors), *Lakshana* (signs & symptoms) and Chikitsa (treatment) and Rogas meaning diseases. Hence, *Kshudra Rogas* are diseases which have minimal causative factors, signs and symptoms and which need minimal treatment to cure. *In Kshudra Roga*, mainly Rakta dhatu (blood) and Mamsadhatu (muscles) are vitiated. *Kshudra Rogas* are mainly explicated through the Twaka (skin). Sushruta has quoted 44 *Kshudra Rogas, Vagbhata* hasmentioned 36 whereas *Madhava* has mentioned 43 *Kshudra Rogas* in their texts. *Yuvanpidika* (acne vulgaris) is one of the *Kshudra Rogas* described in various *Ayurveda* text[21]. According to Ayurveda, healthy skin is a result of overall health condition of individuals. Skin is formed by the *Paka* (metabolism) of Rakta dhatu (blood) by its Dhatvagni (metabolism inducing agent) during intrauterine life. Sushruta has elaborated the formation of Twaka by an excellent example. According to Sushruta, after the Paka of Rakta dhatu, it becomes dry (due to *Vata*) in the form of skin like deposition of *Santanika* (milk cream) on the surface of boiling milk. This elaboration suggests that *Rakta Dhatu* (blood) is basic element in formation of skin during intrauterine life. [23] *Rakta* (blood) nourishes the skin through-out the life. Thus, impurities (inflammatory mediators) in blood explicate by skin in the form of *Kshudra Rogas* including *Yuvanpidika* (acne). *Twaka* (skin) is the *Mool Sthana* (primary site) for acne formation hence acne is considered as '*Twagdosha*'. In ancient period (2 B.C.), *Yuvanpidika* was first described in *'Tristreshniya Adhyaya'* of *Charaka Samhita. Charaka* has mentioned that Pidika (pimple) is *Bahya Roga* (external disease) and *Marga Ashrita Roga* (disease caused due to obstruction. *Sushruta* has also described *Yuvanpidika* or *Mukhadushika in Kshudra Roga Niadanadhyaya* (13th chapter) of *Nidana Sthana*. He also described the treatment of Yuvanpidika in Kshudra Roga *Chikitsadhyaya (20th Chapter) of Chikitsasthana[24]*. *Likewise, Yuvanpidika* has been described by *Madhava, Vagbhata* and *Yogaratnakar under Kshudra Roga* chapter in their text.

Causative factors of Yuvanpidika vis-à-vis Acne vulgaris

In Ayurveda, very short description is available about causative factors of acne. In *Ayurveda* texts, it has been mentioned that almost all the diseases are attributed to an abnormality of 3 *Doshas* and 7 *Dhatus Or Dushyas*. Components which cause *Dushti* (abnormality) in functions of these doshas and dhatus are considered as causative factors for acne. *Kapha Dosha* (oily in nature as sebum), *Vata Dosha* (dry in nature) and *Rakta Dhatu* (blood) are main *Samprapti Ghataka* (main pathophysiological components) in the development of

acne. According *to Sushruta, Rakta Dhatu Dushti* (blood impurities) is one of the main pathogenic factors of acne formation. *Sushruta* described that several other important local and systemic pathogenic components related to sexual changes during adolescence are also responsible for acne formation. The causative factors of acne (Table 1) are mainly divided into 4 types viz. *Kalaja (age), Aaharaja (diet), Viharaja* (physical activities) and *Manasika* (psychological). *Ayurveda*, sexual changes depending upon the age are considered as important causative factors for acne formation. In *Kashyapa Samhita*, it has been mentioned that at the age of 16 years, the changes in secondary sexual characters (including changes in sexual organs) start and also Shukra dhatu (semen) development occurs. It has been also elaborated that these changes of sexual characters occur due to the combined and forceful action of *Pancha Mahabhutas* during the young age or adolescence. Other authors such as *Sushruta* and *Vagbhata* have also explained that *Mukhadushika* (acne) primarily occurs during adolescence. *Bhavaprakash* mentioned that acne is caused due to *Svabhava* (behavioral changes). In *Sharangadhara Samhita*, it has been mentioned that acne is caused due to *Shukradhatumala* (byproducts during semen formation). According to modern science, several causes such as excess androgen secretion, bacteria, etc., play an important role in pathophysiological process of acne. The precise mechanism of acne is not known but there are four major factors responsible for acne formation: First, increased and altered sebum production under androgen control (or increased androgen sensitivity); second, follicular hyperkeratinization (process leading to comedones); third, proliferation and colonization by Propionibacterium acnes (P. acnes) and Staphylococcus epidermidis and fourth, release of inflammatory mediators including cytokines.

Types of Yuvanpidika vis-a-vis Acne vulgaris

In *Ayurveda*, there is no specific description on types of acne. But many physicians use anti-acne medicines as per the pathological factors i.e. vitiated *Vata, Kapha, Pitta and Rakta*. Thus, acne may be classified on the basis of these pathological factors. According to characters of doshas and dhatus involved, acne is categorized in four groups' viz. *Vataja, Pittaja, Kaphaja* and *Raktaja*. If there is intense itching, scaling, dryness, blackish coloration of acne lesion then it is called as *Vataja Yuvanpidika*. In case of *Pittaja* and *Raktaja Yuvanpidika* symptoms such as redness, heat and pus at acne lesion occurs. If there is increased oiliness and pus at acne lesion, that acne is called as *Kaphaja Yuvanpidika*.In 1990, American Academy of Dermatology developed a classification scheme for primary acne vulgaris. This grading scale delineates three levels of acne: mild, moderate, and severe. [26] Mild acne is characterized by the presence of few to several papules and pustules, but no nodules. Patients with moderate acne have many papules and pustules, along with a few to several nodules. With severe acne, patients have numerous or extensive papules and pustules, as well as many nodules.

Pathophysiology of Yuvanpidika vis-à-vis Acne vulgaris

According to *Ayurveda*, Samprapti (pathophysiology) of acne is complex process. Initially, causative factors vitiate *Kapha Dosha, Vata Dosha And Rakta Dhatu*. These vitiated elements go in the skin and obstruct the skin pores i.e. *Lomakup* (pilosebaceous unit). Obstruction of *Lomak* (pilosebaceous unit) leads local swelling and microcomedones formation. Paka (metabolism) of these elements in microcomedones cause pustule, papule and cyst formation. Rupture of these microcomedones leads to *Vrana Vastu* (scar) formation[27, 28]Also, *Vata Dosha And Rakta Dhatu* cause hyperpigmentation of skin which leads to *Vyanga* (black spotting) formation[25]. As per modern medicine, though the pathophysiology of acne is multifactorial process; the initial stage of acne formation is obstruction of sebaceous gland. Pathophysiology of acne vulgaris starts at adolescence when hormonal changes (androgens) are on peak in the body. Locally on the skin, androgens are involved in the regulation of cell proliferation and lipogenesis[29].Hormones may also play a role in the follicular hyperkeratinization. The skin surface in acne prone areas is colonized with Staphylococcus epidermidis and Propionibacterium acnes. It is widely accepted that acne vulgaris is induced mainly by inflammatory reaction however, it is by no means clear that either bacteria or bacterial products initiate follicular inflammation. Despite this, some experimental studies have suggested that P. acnes are the main organism which plays an important role in pathogenesis of acne vulgaris. The overgrowth of P. acnes hydrolyses sebum triglycerides, producing free fatty acids and release inflammatory mediators (cytokines) which may lead to inflammatory lesions including papules, pustules, cysts and nodules.

Treatment of Yuvanpidika vis-à-vis Acne vulgaris

As per *Ayurveda*, treatment for acne is mainly divided into two types, i.e. medicinal treatment and surgical treatment[28].

1. Medicinal Treatment

Classical medicinal treatment for acne is of two types i.e. *Shodhana* (purification) and *Shamana* (conservative) *Chikitsa. Vitiated Doshas* are expelled out of body by *Shodhana Chikitsa*, whereas *Shamana Chikitsa* corrects vitiated doshas instead of expelling out from the body. *Sushruta* has elaborated *Vaman* (emesis) as *Shodhana Chikitsa. Vaman* is one of best abutting therapy along with topical and oral *Ayurveda* formulations in acne vulgaris[30]. *Vaman* is a procedure in which doshas are eliminated through upper channels i.e. mouth. It helps to prevent the forthcoming diseases due to *Kapha* and *Pitta. Nasya* i.e. introduction of medicines through the nasal cavity is another type of as *Shodhana Chikitsa* used to treat acne. *Nasya* is a type of systemic therapy for acne elaborated by *Vagbhata* in his texts. In *Nasya,* different types of oils, powder, etc., have been used to treat acne. *Shamana Chikitsa* includes use of topical as well as oral formulations such as pills, pastes, oils, scrubs, etc. [31] These formulations normalize the vitiated doshas. Many classical *Ayurvedic* formulations also available in the market in convenient dosage forms for conservative management of acne vulgaris. These classical therapies have not only been used to cure acne but also for rejuvenation of the skin

Herbs and their action [32]

1. *Lodhra*
Symplocos racemosa
Anti-bacterial, Anti-inflammatory, Anti-septic
2. *Vacha*
Acorus calamus
Anti-bacterial, Anti-inflammatory
3. *Dhanyaka*
Coriandrum sativum
Anti-bacterial, Anti-septic
4. *Yashtimadhuka*
Glycyrrhiza glabra
Skin Soothing, Regulates sebum production,
Useful in hyperpigmentation, Blood purifier, Anti-bacterial
5. *Shalmali*
Salmalia malabarica
Anti-bacterial, Anti-inflammatory, Effective in Acne vulgaris
6. *Daruharidra*
Berberis aristata
Analgesic, Anti-bacterial, , Anti-dermatitis
7. *Jatiphala*
Myristica fragrans
Rectify uneven skin pigmentation, Inhibits
melanin biosynthesis, Anti-inflammatory
8. *Manjishtha*
Rubia cordifolia
Useful in hyperpigmentation, Increase skin
complexion & skin-glow, Anti-oxidant, Anti-inflammatory
9. *Nimba*
Azadirachta indica
Anti-bacterial, Useful in various skin Disorders, Anti-septic
10. *Khadira*
Acacia catechu
Anti-bacterial, Overall skin disorders like
Anti-Eczema, Anti-scabies, Anti-dermatitis
11. *Sariva*
Hemidesmus indicus
Effective in Acne Vulgaris, Anti-inflammatory, Anti-bacterial, Anti-oxidant

12. *Guduchi*
Tinospora cordifolia
Anti-inflammatory, Anti-allergic, Anti-leprotic, Anti-stress
13. *Kakamachi*
Solanum nigrum
Anti-inflammatory, Anti-bacterial
14. *Methika*
Trigonella foenum-graecum
Emollient and healing effects, Anti-microbial, Anti-inflammatory
15. *Zendu*
Calendula officinalis
Anti-inflammatory, Styptic, Anti-septic,
Anti-hemorrhagic

DISCUSSION

Acne is one of the most common skin problems in all over the world treated by dermatologists Adolescents are mostly susceptible to acne, but it can occur in any age group. Several Ayurveda texts including *Sushruta Samhita, Ashtanga Hrudaya, Bhavaprakash, Chakradatta Tika, Yogaratnakar, Charaka Samhita, Sharangadhara Samhita* and modern literatures have been reviewed concerning with acne vulgaris. After review, it has been observed that both sciences have shown great similarity in the understanding of acne vulgaris in terms of causative factors, onset of symptoms, age factors, pathophysiology and methods of treatment of acne vulgaris. Acne has been elaborated in Ayurveda as a *Kshudra Roga* (minor ailment), as it is not a serious or life threatening disorder but it seriously impacts quality of life of person. *Yuvanpidika or Tarunyapitika or Mukhadushika* are the terminologies used in Ayurveda to define the acne. *Yuvan or Yauvana and Tarunya* are related to age factors i.e. adolescence (youthfulness) and physical changes that occur during the young age. According to Ayurveda and modern science, behavioral changes during adolescence such as anger and stress have also been considered as contributory factors for acne development.In the definition of *Mukhadushika*, the word *Dushika* can resemble with inflammatory mediators and bacteria that cause acne vulgaris. The word, *Paka* (metabolism) also may resemble with inflammatory pathophysiological factors of acne. In the *Samprapti* (pathophysiological) process of acne, factors stated by Ayurveda such as vitiated Kapha, Vata and Rakta can resemble with modern pathophysiological factors such as excess sebum production, hyperkeratinization and blood impurities, respectively. *Vata* is known to have *Pravartaka* i.e. stimulant action (for hyperkeratinization), whereas Kapha is oily in nature. [34] As far as the treatment of acne is concerned, both the sciences advise the use of topical as well as oral medications. Modern science describes the treatment as per the severity of the acne, similarly *Ayurveda* has also advised *Raktamokshan* (bloodletting) for severe cases of acne. [35] *Ayurveda* believes in expelling the root causes of acne by advising *Shodhana Chikitsa*. Modern science also aims at eliminating one of the main factors of acne i.e. P. acnes bacteria by advising oral as well as local antibiotics. Effective treatment modalities are available in both the sciences, but sometimes adverse effects of modern medicines limit their use. [36] In the present review, an effort is made to compile scattered references of acne under one roof and also a comparison is made between *Ayurveda* and modern medicines with regards to understanding of acne. Looking at the incidence of acne in the society, continuous efforts have to be made towards development of newer effective and safe remedies for the treatment of acne. Looking at in-depth knowledge, *Ayurveda* can certainly contribute in the development of newer effective and safe remedies for the treatment of acne.

CONCLUSION

This study infers that Ayurveda formulations can be used to support the management of acne vulgaris when a suitable diet and lifestyle are practiced.

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