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ROLE OF HOMOEOPATHY IN ACNE VULGARIS: A REVIEW ARTICLE

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ABSTRACT

Among the pilosebaceous unit, acne vulgaris is a frequent inflammatory skin condition. Even while acne is more prevalent in adolescence, it can affect people of lower age and continue or worsen into maturity. Inflammatory and noninflammatory lesions of the face, chest, and back are frequently seen in the early stages of acne. Homoeopathic treatment is done with holistic, individualized and constitutional medicine. Some homoeopathic medicines which are prescribed mostly for treatment are: *Hepar Sulphur, Kalium Bromatum, Sulphur, Psorinum, Mercurious Solubilis, Sepia Officinalis, etc.*

KEYWORDS: Acne Vulgaris, Homoeopathic Therapeutic Medicines.

INTRODUCTION[1,2,3]

Acne vulgaris is a common chronic cutaneous inflammatory disorder of the pilosebaceous unit. It is commonly manifested with papules, pustules, or nodules primarily on the face. It can also commonly affect the upper arms, trunk, and back. The pathogenesis of acne vulgaris includes various factors that lead to the formation of its primary lesion, which is known as "comedo". Although acne vulgaris is commonly seen among adolescents, it is not restricted to this age

and can affect individuals of various ages groups. The severity of this condition can vary from a mild presentation with only a few comedones to severe forms characterized by disfiguring inflammatory manifestations, which can lead to hyperpigmentation, scarring, and adverse psychological effects.

Epidemiology

The prevalence of Acne vulgaris is commonly observed in adolescents and young adults which is estimated from 35% to 90%.[4] The natural course of this disease can commence as early 7-12 years of age (preadolescent acne) and resolve by the third decade of life. However, there are instances where acne can persist into adulthood or can develop for the first time during adulthood.

Adolescent acne is more common in males than in females. On the contrary, post-adolescent acne predominantly affects females. Urban populations are more likely to be affected by acne vulgaris than rural populations. Approximately 20% of the affected individuals develop severe acne, which results in scarring. Asians and Africans are more likely to develop severe forms of acne.[5]

Etiology

Follicle blockage, hyperkeratinization, keratin plug production, and sebum (microcomedo) all contribute to the development of acne. Sebaceous gland enlargement and higher sebum production are linked to elevated androgen production. An open comedo (blackhead) or closed comedo might develop from the enlargement of the microcomedo. Comedones arise due to the accumulation of sebum, a naturally occurring oil, and dead skin cells in the sebaceous glands.[6]

1. **Environmental factors:** It include various factors like high humidity, Prolonged sweating, Increase in skin hydration, Exposure to dirt or vaporized cooking oil, or certain chemicals like petroleum derivatives.[6]

2. **Drug use:** Certain drugs like Phenytoin, Isoniazid, Phenobarbital, Lithium, Ethionamide, Steroids, Azathioprine, Quinine, and Rifampin cause acne.[6]

3. **Hormonal:** Menstrual cycles and puberty may also cause acne. During puberty, the increase in androgen levels causes the enlargement of follicular glands and excess production of sebum. The anabolic steroids used in various treatments also cause similar

effects. The increase of several hormones like the androgens testosterone, dihydrotestosterone, dehydroepiandrosterone sulfate, and insulin-like growth factor 1 (IGF -I) can cause acne. Acne vulgaris in adult women may be due to underlying conditions such as; pregnancy, Cushing's syndrome, hirsutism, or polycystic ovary syndrome. Acne climacterica refers to menopause-associated acne, which occurs as the production of the anti-acne ovarian hormones estradiol and progesterone allowing the acnegenic hormone testosterone to continuously exert its effects.[6]

4. **Genetic:** Various studies have provided evidence supporting the genetic component of acne. Individuals with affected first-degree relative have a risk of developing acne that can be as high as 3 times greater compared to individuals without a family history of the condition.[7] Gene expression studies has demonstrated the upregulation of matrix metalloproteinases 1 and 3, inflammatory cytokines (IL-8), and antimicrobial peptides (human beta-defensin 4 and granzyme B) in inflammatory acne lesions.[8]

5. **Psychological:** Several researches show that an increase in stress levels is associated with increased acne severity. The National Institutes of Health (USA) shows that stress can cause acne flare.[6] In various literature, it is written that stress causes an imbalance in hormones, insomnia, etc which leads to various endocrinal disorders and can produce acne also.

6. **Infectious Propionibacterium Acnes (P. Acnes):** P. acnes are anaerobic bacterium species that mainly causes acne. Staphylococcus aureus has been discovered to play an important role as normal pores are colonized only by Propionibacterium acnes. Specific clonal sub-strains of P. acnes i.e. an anaerobic diphtheroid which naturally exists as part of the skin flora can also be cause for long-term acne problems. These strains have the capability of changing, perpetuating, or adapting to the abnormal cycle of inflammation, oil production, and inadequate sloughing activities of acne pores, and thus the antibiotic resistance has been continuously increasing to P. acnes in vitro.[6]

7. **Diet:** The relationship between acne and diet remains unclear but it is observed that high glycemic diet is associated with worsening of acne. Reports showed that consumption of chocolate and salt are not associated for developing acne. The high glycemic load,obesity and insulin metabolism can be associated with acne.[6]

8. **Parasitic:** Acne is linked with the parasitic mite Demodex but it is unclear whether Demodex or Demodex associated bacteria is cause of acne.[6]

Pathophysiology[9]

The interaction of several host factors, including the stimulation of sebaceous glands by androgens in the bloodstream, dysbiosis of the pilosebaceous follicle microbiome, cellular immunological responses, genetics and diet influence the development and progression of acne vulgaris. the primary lesion and precursor for all clinical manifestations of acne vulgaris is the 'microcomedo' which is characterized by a small, hyperkeratotic plug primarily composed of corneocytes and located in the lower region of the follicular infundibulum.these microcomedo gradually develop into other acne lesions, which include closed comedones (Whiteheads), open comedones (blackheads), and inflammatory papules, pustules, and nodules. The progression of microcomedones into other types of acne lesions has been explained in the following 4 primary pathogenic events:

- Increased sebum production (seborrhea)
- Follicular hyperkeratinization
- *P. acnes* (*Propionibacterium acnes)*
- Inflammation

The gradual accumulation of keratinous material and sebum converts a micro comedo into a closed comedo and through continuous distension, the follicular orifice gradually expands, resulting in the formation of an open comedo. Then oxidized lipids and melanin within the comedo gives the characteristic dark black color. *P. acnes* and its antagonizing cellular immune responses contribute to the development of inflammatory papular pustules and eventually,the follicles rupture with the release of bacteria, keratin, and proinflammatory lipids into the surrounding dermis, exacerbating the inflammation with subsequent nodule formation.

Physical appearance of acne vulgaris[10]

Acne occurs where high hormonal responsive sebaceous glands are abundant ,i.e., on the face, neck, chest, upper back, and upper arm areas, where large, hormonally responsive sebaceous glands are abundant. Acne presents as a variety of polymorphic lesions from grade 1 to grade 4, starting with comedones, as following:

- **Grade 1:** Also known as "comedones," and is categorized into two types, open comedones and closed comedones. Open comedones are formed when the pilosebaceous

orifice becomes plugged with sebum and appears as papules with a central, dilated follicular orifice containing gray, brown, or black keratotic material and the closed comedones are formed when keratin and sebum blocks the pilosebaceous orifice beneath the skin surface. While inspection,they are seen as dome-shaped, smooth papules that can be skin-colored, whitish, or grayish in appearance.

- **Grade 2:** Inflammatory lesions with small papules and erythema.
- **Grade 3:** Pustules.
- **Grade 4:** Nodulocystic acne (Many pustules coalesce to form nodules and cysts).

Differential diagnosis[11]

The differential diagnoses for acne vulgaris vary widely and some are listed below:

1. **Rosacea**- It can be differentiated from acne by the presence of comedones and the absence of telangiectasia.
2. **Perioral dermatitis**- It is characterized by grouped erythematous papules in a perioral distribution, sparing the lip margin, unlike acne vulgaris.
3. **Demodex folliculitis**- Presents as inflammatory papules and pustules. It is suspected when the patient fails to respond to acne or rosacea treatment.
4. **Facial angiofibroma**- In tuberous sclerosis appears as pink or red papules on the cheeks and nose of children.
5. **Pseudofolliculitis barbae**- Appears as inflammatory papules, pustules, and scarring in the beard area of patients with tightly curved hair.
6. **Nevus comedonicus**- Exhibits a grouped arrangement of comedones and typically appears at birth or in childhood.
7. **Sebaceous hyperplasia**- It is characterized by small, umbilicated yellowish papules often found on the forehead and cheeks.
8. **Adnexal tumors**- (Such as trichoepithelioma, trichodiscoma, and fibrofolliculoma) appear as flesh-colored facial papules.
9. **Favre-Racouchot syndrome**- Is commonly observed in older adults and is attributed to photodamage. It manifests as comedones in the upper lateral cheeks.

Homoeopathic management

In homoeopathy the disease is not treated instead the patient as a whole is treated with holistic, individualized and constitutional remedy. A thorough case-taking and case

processing is done for selecting a simile for the treatment of acne and restoration of sick to health.

Some medicines whose sphere of action in cases of acne vulgaris are:[12,13,14,15,16,17]

1. ***Antimonium crudum*:** Boils, pustules, and zits on the face. Eruption with yellow crusts on the chin and cheeks. Haggered and sallow.
2. ***Arsenicum bromatum:*** It is a great anti-psoric and anti-syphilitic remedy. Acne rosacea with violet papules on nose, aggravation in the spring. Commonly in young people.
3. ***Asterias rubens*:** Red zits on the mouth, chin, and side of the nose. Attitude toward acne during adolescence.
4. ***Belladonna**:* Boils, Acne rosacea, Suppurative wounds.Eruption is dry, red, hot, swollen and sensitive to touch. Erythema and pustules on face. Alternate redness and paleness of the skin. There is indurations after inflammations.
5. ***Berberis aquifolium***: Spots and acne on the face. Yellow skin with a waxy texture and yellowish-white flashes of heat on the cheeks that feel squeezed.
6. ***Calcarea silicata:*** Pimples, comedones, wens.Itching, burning, cold, blue and very sensitive. The eruptions are psoric.
7. ***Calcarea sulphurica:*** Suppurative processes come within the range of this remedy, after pus has found a vent. The skin affections are yellow, thick, lumpy, and purulent crust or discharge. Purulent exudations are present in or upon the skin. Many little matterless pimples present under the hair and bleeds when scratched. The skin affections do not heal readily.
8. ***Clematis erecta*:** Face eruption that was moist and was accompanied by stinging pain. Chin pimples that are purulent.
9. ***Eugenia jambos*:** Some distance around acne. Rosacea acne. Sickness; better to smoke. Comedons.
10. ***Hepar sulphur*:** Abscesses, suppurating glands are very sensitive and the papules are prone to suppurate and extend. The eruption suppurate with prickly pain and bleeds easily. Unhealthy skin and every little injury suppurates. Acnes of youth.
11. ***Hydrocotyle asiatica:*** The skin and female generative organs are the chief sphere of action. Multiple skin affections are present.Acne rosacea and pustules especially on the chest. Erythema with severe itching and copious sweat. Miliary eruptions on the neck, back and chest. Itching at the tip of the nose.Syphilitic affections.

12. ***Indium metallicum*:** Suppurating pimples that hurt a lot. Mouth's corners are painful and cracked.
13. ***Juglans regia*:** Skin eruptions are prominent. Acne and comedones on the face. Crusta lactea, ear pain in the vicinity. Itching and eruptions of small red pustules. Scalp red, and itches violently at night.
14. ***Kalium bromatum*:** Simplex, indurate, rosacea, pustular, bluish-red eruption on the face, chest, and shoulders; produces unattractive scars in young, plump people with obscene habits.
15. ***Kalium muriaticum:*** Acne, erythema, and eczema, with vesicles containing thick, white discharge. The cheek are swollen and painful. Dry, flour-like scales on the skin. Aggravation by fats, and rich food.
16. ***Ledum palustre:*** Acne , red pimples on forehead and cheeks; sticking pain therein and stinging pain when touched. Crusty eruption around nose and mouth.
17. ***Medorhinum*:** Acne, blotches of a reddish colour. Face covered with acne. Intence and incessant itching, fugitive, aggravation at night, sometimes confined to only one side. Pallor skin. Copper coloured spots remain after eruptions, thin yellow-brown and detach in scales. Fetid odor of body. Syphilitic skin lesion.
18. ***Mercurius solubilis:*** Pale, earthy, dirty-looking, puffy, almost constantly moist skin lesion. Aching in facial bones, Syphilitic pustules on face. Yellowish scab on face with fitid humour discharge and constant itching day and night. General tendency to free perspiration, but patient is not relieved by it. Pimples around the main eruption. Itching aggravates from warmth of bed, constantly day and night.
19. ***Psorinum*:** All types of complex rosacea develop during menstruation which are caused by coffee, fats, sweets, and meats. The condition only gets better with the finest available treatment.
20. ***Sulphur iodatum:*** Obstinate skin affections, especially in barber's itch and acne. Itching rash, like nettlerash.The face is dry, hot and yellowish. Papular, yellowish pustules, erythematous eruption with painful, soreness, tenderness on face espcially perioral region. Acne punctata.
21. ***Sulphur*:** It is the greatest psoric remedy. Dry, scaly, unhealthy; every little injury suppurates. Eruption of pimples on face and on forehead. Very colicky babies with pimples,itch, or eruption on skin, or roughness of skin. Itching, burning; aggravation on scratching and washing. Pimply eruption, pustules, rhagades, hang-nails. Skin affections

after local medication. Pruritus, especially from warmth, in evening, often recurs in spring-time, in damp weather.

REFERENCES

1. Yan HM, Zhao HJ, Guo DY, Zhu PQ, Zhang CL, Jiang W. Gut microbiota alterations in moderate to severe acne vulgaris patients. J Dermatol, 2018; 45(10): 1166-1171. [PubMed]
2. Juhl CR, Bergholdt HKM, Miller IM, Jemec GBE, Kanters JK, Ellervik C. Dairy Intake and Acne Vulgaris: A Systematic Review and Meta-Analysis of 78,529 Children, Adolescents, and Young Adults. Nutrients, 2018; 09: 10(8) [PMC free article] [PubMed]
3. George RM, Sridharan R. Factors Aggravating or Precipitating Acne in Indian Adults: A Hospital-Based Study of 110 Cases. Indian J Dermatol, 2018; 63(4): 328-331. [PMC free article] [PubMed]
4. Wolkenstein P, Machovcová A, Szepietowski JC, Tennstedt D, Veraldi S, Delarue A. Acne prevalence and associations with lifestyle: a cross-sectional online survey of adolescents/young adults in 7 European countries. J Eur Acad Dermatol Venereol, 2018; 32(2): 298-306. [PubMed]
5. Özçelik S, Kulaç İ, Yazıcı M, Öcal E. Distribution of childhood skin diseases according to age and gender, a single institution experience. Turk Pediatri Ars, 2018; 53(2): 105-112. [PMC free article] [PubMed]
6. Suva MA, Patel AM, Sharma N, Bhattacharya C, Mangi RK. A brief review on acne vulgaris: pathogenesis, diagnosis and treatment. Research & Reviews: Journal of Pharmacology, 2014; 4(3): 1-2.
7. Xu SX, Wang HL, Fan X, Sun LD, Yang S, Wang PG, Xiao FL, Gao M, Cui Y, Ren YQ, Du WH, Quan C, Zhang XJ. The familial risk of acne vulgaris in Chinese Hans - a case-control study. J Eur Acad Dermatol Venereol, 2007; 21(5): 602-5. [PubMed]
8. Trivedi NR, Gilliland KL, Zhao W, Liu W, Thiboutot DM. Gene array expression profiling in acne lesions reveals marked upregulation of genes involved in inflammation and matrix remodeling. J Invest Dermatol, 2006; 126(5): 1071-9. [PubMed]
9. O'Neill AM, Gallo RL. Host-microbiome interactions and recent progress into understanding the biology of acne vulgaris. Microbiome, 2018; 02, 6(1): 177. [PMC free article] [PubMed]
10. Pochi PE, Shalita AR, Strauss JS, Webster SB, Cunliffe WJ, Katz HI, Kligman AM, Leyden JJ, Lookingbill DP, Plewig G. Report of the Consensus Conference on Acne

Classification. Washington, D.C., March 24 and 25, 1990. J Am Acad Dermatol, 1991; 24(3): 495-500. [PubMed]

11. Ugge H, Udumyan R, Carlsson J, Andrén O, Montgomery S, Davidsson S, Fall K. Acne in late adolescence and risk of prostate cancer. Int J Cancer, 2018; 15, 142(8): 1580-1585. [PMC free article] [PubMed]
12. Boericke W. Boericke's New Manual of Homoeopathic Materia Medica with Repertory, Revised & Reaugmented Edition. B. Jain Publishers (P) Ltd. Noida, 2000; 2019.
13. Allen, H., Allen's keynotes rearranged & classified. New Delhi: B. Jain Publishers (P) Ltd, 2005; 10.
14. Clarke, J., A dictionary of practical materia medica. Wentworth Press, 2018; 3.
15. Phatak, S., Materia Medica of Homeopathic Medicines. B. Jain Publishers (P) Lt, 2007; 2.
16. Farrington E. A. Comparative materia medica. New Delhi: Jain, 1999.
17. Kent JT. Materia medica of homeopathic remedies. London: Homeopathic Book Service, 1989.