ISSN : 2347 -

Indo - American Journal of Life Sciences and Biotechnology

ISSN 2347-2243 www.iajlb.com
Vol.20 , Issue.1, Jan 2023

Indo-American Journal of Life Sciences and Biotechnology

A Review on Acne Vulgaris and Its Physiopathological Management

Dr. Indrayani Nilesh Badhe

Article Info

Received: 19-12-2022 Revised: 10 -01-2023 Accepted: 22-02-2023

Abstract-

Though more frequent in adolescence, acne vulgaris may appear at any age, making it one of the most common skin diseases affecting teenagers. Pigmentation, scarring, and an underappreciated psychological toll are all results of this condition, which mostly affects the pilosebaceous unit. By seeing the ill person as a whole, rather than isolating diseased organs or tissues, homoeopathy takes a more comprehensive approach to healing. Taking into account the patient's physical, mental, and emotional problems, it cures them swiftly, compassionately, and securely. The article provides a comprehensive overview of acne vulgaris and how it may be managed homoeopathically.

INTRODUCTION

The teenage demographic has long been afflicted by acne, scientifically known as acne vulgaris. Acne vulgaris, from the Latin for "common pimple," was originally used by Fuchs in 1840 and is still in use today. It is a skin condition characterized by irritation around blocked hair follicles caused by horny plugs (comedones) that form within the follicles. resulting in the death of cells and the development of scars 2. A chronic inflammatory condition affecting the Pilo-sebaceous follicles, it often affects the skin in places with the highest concentration of sebaceous follicles, such as the back, buttocks, or face. On rare occasions, it may solely affect the back. It is the eighth most prevalent skin disease worldwide, with an estimated prevalence of 9.38% (across all age groups). Acne prevalence varies among nations and age groups, with estimates ranging from 35% to almost 100% of teenagers experiencing acne at some point4. While most people associate acne with puberty and teenage girls, men and women can still experience the condition at any age. Acne that lasts longer than 25 years is known as adult acne, and it can start in late adulthood or persist from adolescence. Several studies have shown that persistent acne is more common in women than in men.

Professor

Homoeopathic Medical College & Hospital, Jalgaon

Pathophysiology

Cytokines, heredity, and environmental variables are all important players in the pathophysiology of acne. When four elements come together, they cause acne. These factors are: overproduction of sebum, Bloating of hair follicles by keratinocytes and sebum, Follicle colonization by Cutibacterium acnes (formerly Propionibacterium acnes; a typical anaerobe in humans), followed by the secretion of several inflammatory mediators. Acne pathophysiology primarily involves inflammation. It is believed that elevated levels of the pro-inflammatory cytokine interleukin (IL)-1 initiate keratinocyte growth. before hyperproliferation starts around the uninvolved follicles, which is visible. There is little evidence that toll- like receptors, a subset of pattern recognition receptors (PRRs) that may trigger innate immune responses, contribute to acne development. A Gram-positive anaerobic bacterium called Propionibacterium acnes, which is often located in the sebaceous follicle, is directly and indirectly involved in the inflammatory acne process. Important causes in its pathophysiology include excessive sebum production, alterations in its lipid content, and oxidant/antioxidant ratio (lower vitamin E levels). Multiple variables, including as androgens, vitamin D, corticotropin-releasing hormone, and insulin-like growth factor-1 (IGF-1), enhance sebum production throughout puberty. 7, 8. In addition to these factors, various studies have shown that genetics, ethnicity, diet (particularly a high glycemic index diet, chocolate, and high-fat foods), and personal factors (such as a high body mass index, smoking, alcohol consumption, lack of personal hygiene, cosmetics use, and stress) all play a role in the development and severity of the lesions. 4, 6, and 7. Variations in vitamin levels, variations in the hormones testosterone and 5α-DHT, level, and a number of diseases and conditions were also linked to it 8.

CLINICAL PRESENTATION

Nodules, cysts, comedones, papules, and pustules were the clinical lesions seen in acne. Comedones are one kind of non-inflammatory lesion; papules, pustules, nodules, and cysts are inflammatory forms. Any kind of blackhead or whitehead may be a comedone. The size of flesh-colored or whitish palpable lesions known as whiteheads (closed comedones) range from 1 to 3 mm in diameter; open comedones, or blackheads, are similar in appearance but have a dark core. Papules and pustules are little, red lesions that range in diameter from 2 to

5 mm. Papules are situated at a good depth. More superficial are pustules. Despite not having a genuine cystic structure, nodules resemble inflammatory epidermoid cysts and are bigger, deeper, and solid than papules. Suppurative nodules are known as cysts. 9. Once a person reaches puberty, they may have two types of acne: persistent acne, which lasts throughout adulthood, and late-onset acne, which doesn't show up until beyond the age of 25. 10. You need to know the difference between acne vulgaris and other types of lesions including rosacea, acne conglobata, acne excoriee, acneiform eruptions, acne inversus (Hidradenitis suppurativa),

adenoma sebaceum, drug-induced acne, bacterial folliculitis, etc [8].

Investigation And Assessment

Acne is primarily diagnosed clinically but its polymorphic nature and varied extent of involvement make it difficult to evaluate its severity. The two commonly used measures for measuring the severity of acne vulgaris are grading and lesion counting. It was graded by Indian authors, using a simple grading system, which classifies acne vulgaris into four grades-

- Grade 1: Comedones, occasionalpapules,
- Grade 2: Papules, comedones, fewpustules,
- Grade 3: Predominant pustules,nodules, abscesses,
- Grade 4: Mainly cysts, abscesses,widespread scarring.

No grading system has been accepted universally[9,11]. Investigations are rarely required for its diagnosis, history and physical examination can help determine if there is an underlying cause of the acne, such as an exacerbating medication or endocrinologic abnormality causing hyperandrogenism (e.g., polycystic ovarian syndrome) these and other menstrual irregularities require investigation. If there is associated cutaneous virilism or other features of androgen-secreting tumors, further endocrine investigation and assessment are warranted[12].assessment of acne lesion is very challenging, grading and lesion counting are two methods used for this purpose. Leeds technique, Global acne grading system (GAGS), Investigator Global Assessment of acne (IGA), and Cardiff Acne Disability Index (CADI) are a few of them [11,13].

Complications And Treatment

The most common complication experienced is some degree of scar formation extent of which varies with the severity of acne. Different forms of scar were Ice pick scars Rolling scars Boxcar

scars and Papular scars. Besides physical disfigurement psychological implication of acne is severe and often underestimated. It has a great impact on the quality of life of the individual with consequences such as poor self-esteem, depression, anxiety, altered social interactions, body image alterations, embarrassment, anger, lowered academic performance, and unemployment [8,10]. It has been found in a study on the impact of acne on quality of life that there is a positive correlation between acne severity and CADI scores (R=0.51), which implies that as the severity of acne worsens, the QOL impairment increases [14]. The treatment of acne vulgaris, as the conventional medicine, is theoretically designed to target one or more of the pathogenic pathways involved in the development of AV lesions, it involves the application of different varieties of topical and systemic agents for the reduction in sebum production, comedone formation, inflammation, and bacterial counts and at normalizing keratinization. The selection of treatment is generally based on severity. Commonly, topical tretinoin for comedones, topical retinoid alone or with a topical antibiotic, benzoyl peroxide or both for mild inflammatory acne, oral antibiotic plus topical therapy for mild acne, oral isotretinoin for severe acne, and intralesional triamcinolone for cystic acne are recommended [8.9].

Homoeopathic Approach And Scope

Homoeopathy is a system of medicine introduced by Dr. C. F. S. Hahnemann, is based on the law of similar and considers the patient as a whole rather than any particular organ or tissue to be diseased. Dr. Hahnemann says, in the introduction to Organon of Medicine, for without the most minute individualization, homoeopathy is not conceivable [15], every individual is characterized by some unique features which serve to denote that particular individual from other individuals belonging to the same class or group [16]. Homoeopathic treatment involves selecting a treatment according to the precise symptoms of each patient [17]. covering i.e., the skin of a human being but affects the patient at all levels of health (mental, emotional, and physical) and needed to be addressed similarly.

Homoeopathic treatment unlike any other treatment modalities treats the patients gently and with minimal or no after-effects.

Research studies with homoeopathic intervention have been done in this regard and have also established the scope of the homoeopathic mode of treatment in acne vulgaris. Some of the studies include- a pilot study on 400 acne patients with a placebo control group of 30 acne cases with only single oral homoeopathic medicine (either ‘Sulphur or

'Tuberculinum') was used oral y without any local application, shows significant improvements in 387 (96.75%) cases within 6 months of treatment [18]. In another study on 36 participants at the end of three months maximum participants had significant improvement (mean difference = 19.778, t (35) = 17.616, p < .001) with 24 (66.7%) cases showing more than 75 percent improvement in GAGS score also significant (p < .001) improvement in all the four domains of ACNE-QoL has been observed [19]. A study on patients attending the outpatient clinic of a state homeopathic dispensary for 6 months shows significant improvement in QoL in terms of GAGS and CADI scores [20]. An open-label, uncontrolled, prospective study changes in the severity of acne measured using GAGS and QoL measured through the acne-QoL questionnaire on 102 patients (11–30 age group) having acne vulgaris for more than 03 months.QoL and acne status improvedsignificantly (p<0.0001) after treatment asassessed by acne-QoL and GAGS respectively [21]; various other studies[22-26] also signify the scope of individual homoeopathic treatment in acne vulgaris. **Therapeutics**

The selection of medicine for acne vulgaris should be based on the totality of symptoms as in every other disease condition, some indications of homoeopathic medicine for acne vulgaris are as follows [27,28]:

Ambra Grisea: Tickling and itching titillation in the face, with eruption of pimples; the same in the forehead, and in the region of the whiskers.

Antimonium Crudum.: Pimples, pustules, and boils on face. Yellow crusted eruption on cheeks and chin. Sallow and haggard. Granular eruptions, yellow as honey, on the skin of the face. Eruption, like conoid chicken-pox, on the face and on the nose. Pimples on the upper lip.

Belladonna: Eruption of red pimples on the temples, in the corners of the mouth, and on the chin. Purulent and scabby pimples, chiefly on the cheeks and on the nose.

Berberis aquifolium: Pimply, dry, rough, scaly. Eruption on scalp extending to face and neck. Acne. Blotches and pimples. Clears the complexion.

Calcarea phosphorica: Coppery face full of pimples. Acne in the face; red pimples, filled with a yellowish pus, with shooting pains on being touched.

Calcarea sulphurica: Pimples and pustules on the face. Many little matterless pimples under the hair, bleeding when scratched.

Carbo vegetabilis: Red pimples on the face (in young persons). Eruptions, like tetters, on the chin, and on the

commissures of the lips.

Clematis erecta: Moist eruption on the face, preceded by stinging pain. Purulent pimples on the chin.

Conium: Eruptions of pimples on the forehead. Dryness and exfoliation of the lips. Pimples, like those in scabies, which become scurfy.

Croton tiglium: Inflammation of the face and of the nose; swelling of the face; eruption of pimples. Pustular eruption, especially on face and genitals, with fearful itching, followed by painful burning

Eugenia jambos: Acne, simple and indurated. The pimples are painful forsome distance around.

Acne rosacea. Nausea, better smoking. Comedones **Graphites**: Itching pimples. Eruption on the face, in appearance as if the skin wereraw. Scabs and moist pimples on the face.Sensation of cobweb.

Indium metallicum: Painful suppurating pimples. Corners of mouth cracked and sore

Juglans regia: Comedones and acne of the face. Crusta lactea, with soreness around ears. Itching and eruptions of small red pustules. Scalp red, and itches violently at night.

Kalium arsenicosum: Dry, scaly, wilted. Acne; pustules worse during menses. Acne, appearance like that in early stage ofvariola.

Kalium bromatum: Acne of face, pustules. Itching; worse on chest, shoulders, and face. Acne; on face in young fleshy people of gross habit. Papular rash. Acne simplex and indurata; bluish red, pustular, < on face and chest; esp. in lymphatic constitutions.

Kalium carbonicum: Eruption of pimples on face, with swelling and redness of cheeks. Tearing stitches in cheeks. Pimples on eyebrows.

Ledum palustre: Red pimples on forehead and cheeks; stinging when touched. Crusty eruption around nose and mouth.

Natrum muriaticum: Greasy, oily, especially on hairy parts. Dry eruptions, especially on margin of hairy scalp and bends of joints. Itching and eruption of pimples on face and forehead.

Nux vomica: Acne; skin red and blotchy. Pimples in face from the excessive use of spirituous liquors. Small, purulent pimples round lips and chin.

Phosphoricum acidum: Face pale, wan, with (lustreless) hollow eyes surrounded by a blue circle, and pointed nose. Pimples and scabs on red part of lips. Violent burning pain in r. lower lip, persisting when moving it. Pimples on chin. Eruption of pimples with burning pain, or pain as from excoriation.

Sulphur: Eruption of pimples on face and on forehead.—Itching and moist tetters

over whole face, chiefly above nose, round eyes, and in eyelids; small white vesicles in groups and forming scabs.

Thuja: Greasy skin of face. Eruption of pimples on lips and chin. Eruptions only on covered parts.

CONCLUSION

Acne vulgaris is one of the commonest conditions and is considered to only affect the skin of the individual by the conventional school of medicine and hence treated by topical agents along with antibiotics but as per the organon of medicine, these are none other than the external manifestation of the internalderangement of the vital force and needed to be treated by understanding the affected individual (on mental, emotional and physical levels) in its whole extent.

REFERENCES

1. AR. Shipman and NF. Mahmood. A long-standing issue: acne. Publication date: 2017; volume 3, pages 71-6. Published in the International Journal of Women's Dermatology. The authors of the 18th edition of Roxburgh's Common Skin Diseases are Marks and Motely. Pp. 159–81. New York: CRC Press, 2011. Third Edition of the Textbook of Dermatology for Homoeopaths by Gupta and Manchanda. B. Jain Publishers Pvt Ltd., New Delhi, 2011. Pages 121–25.

6. Heng AHS, Chew FT. Acne vulgaris: a systematic review of the epidemiology. Research report. 2020;10(1):5754. The citation for this article is: 10.1038/s41598-020-62715-3.

5. Kumar C. and Khander N. The similarities and differences between acne in adolescents and adults: a clinico-epidemiological research. Journal of Indian Dermatology, Venereology, and Leprology 2012; 78:335–341.

Badamakintla and colleagues (2006) found. An epidemiological research examining many variables in the Indian population with acne. IP Journal of Clinical and Experimental Dermatology in India, Volume 6, Issue 3, Pages 237–42, 2020.

7. Hadassani I, Bhat YJ, Latief I. Update on etiopathogenesis and therapy of Acne. The citation is from the Indian Journal of Dermatology, Venereology, and Leprology, 2017; 83:298-306.

Khohiuddin A. Everything You Need to Know About Acne Vulgaris... Public Health Pharmacy 2019; 1(1): 17–45. 9.here: https://www.msdmanuals.com/en-in/professional/dermatologic- disorders/acne-and-related disorders/acne-vulgaris

10. Dewan D. and Sharma R. This article provides a synopsis of adult acne, including its causes, symptoms, clinical manifestations, treatment options, and scope within homoeopathy.The homoeopathic journal links published in 2021 in volume 34, issue 4, pages 291 to 299.

No. 11, Adityan B, Kumari R, Thappa D M. Scoring systems in acne vulgaris. Journal of Indian Dermatology, Venereology, and Leprology, 2009, 75:323-26.

12. Dermatological Disorders (OMV) and Rees JL. As an editor, Colledge NR, Walker BR, and Ralston SH have compiled, A Guide to the Theory and Practice of Medicine by Davidson, 21st Edition. Published by Churchill Livingstone

Elsevier in 2010 in Edinburgh, UK, page 1268.
13. Acne Vulgaris Severity: A Comparison of Two Evaluation Methods (Alsulaimani et al.) March 2020;13: 711-16 Clinical, Cosmetic, and Investigative Dermatology

Citation: 14. Hosthota A, Bondade S, Basavaraja V. Effects of Acne Vulgaris on Self-esteem and Quality of Life. the year 2016; 98:121-24
16. Hahnemann S, Boericke W, Dudgeon R.E. (Transl.). New Delhi: B Jain Publisher Pvt. Ltd., 2009; p.4 Organon of Medicine, 5th and 6th editions merged.
Sarkar: 16. The Organon of Medicine by B.K. Hahnemann, with an Introduction and Critical Commentary. 435 pages. 14th edition. Delhi: Birla publishing Pvt. Ltd.. 2014.
17. From a research standpoint, understanding the principles of homoeopathy is important.In: Journal of Complementary and Alternative Medicine in Healthcare, 2019; 9(2): 1-4.
Pradhan A.K. and Shraddhamayananda S. 18. Results from treating acne with homeopathic remedies are very encouraging. Clinical Medicine Invest. 2016;1(3):1-3.
19. The Importance of Homoeopathic Remedies for Generalized Acne by Deeksha and Singh A.K. Human and Medical Science, 2020, 3, 19–29.
20. A Non-Comparative, Open-Arm Study on Homeopathic Treatment of Acne Vulgaris by Sharma and Manchanda Linkages to Homoeopathy 270–272 (2020).

21. Jadhav AB, Dole SM, Patil JD, Shah JN. The function of customized homoeopathic therapy for acne vulgaris based on cross-representation. The citation is from the International Journal of Research and Analytical Reviews, volume 5, issue 3, pages 836–840, published in 2018.
22.Shrivastava S, Devi R. A randomized controlled experiment examining the efficacy of homoeopathic remedies for adolescent acne vulgaris. Pharmaceutical Research in the World, Volume 8, Issue 7, 2019, Pages 1853-63. twenty-three. Parikh National Park. An investigation of the efficacy of homoeopathic treatment for adolescent acne vulgaris. The article "International Journal of Homoeopathic Sciences. 2019;3(01):11-14" was published in 2019. 24.Manchanda RK and Miglani A. An open-label observational research on the treatment of acne vulgaris with Azadirachta indica. Journal of Indian Homoeopathy Research, Volume 8, Issue 4, Pages 218–23, 2014.

The use of Arctium lappa as an observational study for the treatment of acne vulgaris (Miglani A, Manchanda RK, 25)."Homeopathy" (2014, 103:203–207).
23. Miglani A, Manchanda RK. Efficacy of homeopathic Zingiber officinale (ginger) in treating acne vulgaris: a prospective, non-randomized, open-label research. Thesis on ad hoc complement and alternative therapies, 2014, 19, 191–97.
A Dictionary of Practical Medical Terminology, 27th ed., Clarke J. H. The website http://www.homeoint.org/clarke/h. htm was accessed on June 19, 2022.
28. Homoeopathic Materia Medica by Böricke W. Available online at http://www.homeoint.org/books/bo ericmm/s.htm as of June 19, 2022.