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**Conceptual Study Of *Mukhdushika* W.S.R. Acne Vulgaris – A Systematic Review**Dr. Geeta Basantwani¹ Prof. Rajendra Prasad²

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Article published 31st March 2021**ABSTRACT: -**

Generally everyone and particularly youngsters are more conscious for the beauty of their face. *Yuvanapidika* or *Mukhdushika* is a condition which disfigures the face. India leads the way in protecting Traditional knowledge and Ayurveda is considered as world's holistic system. Various studies have been carried out on Acne Vulgaris and *Mukhdushika*. Ayurvedic regimens along with Yoga's and *Lepa*'s are mentioned in various classical Ayurvedic literatures. A systematic review on the concept of *Mukhdushika* and Acne Vulgaris has been studied through contemporary sciences and modern dermatological references. Various authors and researchers have tried to explore the concept of *Mukhdushika* (Acne Vulgaris), but this concept needs to be evaluated more. There is much scope for further clinical trials from modern as well as Ayurvedic point of view.

KEYWORDS : Acne vulgaris, *Mukhdushika*, *Yuvanapidika*, concept, systematic review.



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INTRODUCTION :

Skin is the largest organ of the body, which protects us from microbes and the elements which includes various external factors such as dust, heat, cold temperature, foreign particles, etc. There is huge focus on skin health, with fierce competition to have glowing, clearer, healthier, younger and fresher skin. Skin cells are shed throughout the day, so it is important to keep skin glowing and in good condition. In today's era due to changed life style and heavy pollution, Acne vulgaris is common which generally starts during puberty and has been estimated to affect over 90 percent of adolescence age. It is usually most severe in the late teenage years but can persist into the thirties and forties, particularly in females.^[1] It is a common chronic skin disease involving blockage and/or inflammation of pilo-sebaceous units (hair follicles and their accompanying sebaceous gland). Acne can be presented as non inflammatory lesions, inflammatory lesions or a mixture of both, affecting mostly the face but also the back and chest. Acne vulgaris typically affects the areas of skin with the densest population of sebaceous follicles. Systemic symptoms are most often absent in acne. Local symptoms may include pain, tenderness and/or erythema. It may have a psychological impact on any patient regardless of the severity or the grade of the disease. Treatment is directed towards the known pathogenic factors involved in acne. These include follicular hyper proliferation, excess sebum, cuti bacterium acnes infection and inflammation. The severity and grading of acne help in determining which of the treatments, alone or in combination, is most appropriate.^[2]

In *Ayurveda*, it is correlated with *Mukhdushika* or *Yuvanpidika* (Acne Vulgaris) under the heading of *Kshudraroga* (minor diseases) described by *Acharya Sushruta*. They mostly occur in the youths/*yuva* in the form of small pustules or *pidika*, so, are called as *Yuvanapidika*.^[3] *Acharya Sharangdhar* has mentioned *Yuvana pidika* (Acne Vulgaris) as the *mala* (waste) of *shukra dhatu*

(semen) along with *vaktra snigdhatu* (unctuousness of mouth). *Shukra Pradurbhava* (release of *Shukra Dhatu*) takes place in adolescence hence prevalence is more in this age group.^[4] *Charaka* has described second half of *Balyaavastha* (childhood) as *Vivardhamanaavastha* (growing period) for all *dhatu*s and *Anavasthita Chittatva* (unstable mind).^[5] These *Shalmali* (Silk Cotton Tree) like eruptions can be *saruja* (pain), *ghana*, *medogarbhata* (filling *Meda* inside the *Pidika*).^[6] According to *Bhavaprakash*, one of the causative factors for acne is *Swabhava* (nature).^[7] *Shodhana* (purification) and *Shamana* (pacification) therapies have been mentioned in the classical texts. *Shodhana chikitsa* (purification) like *Vamana* (emesis), *Virechana* (purgation), *Nasya* (nasal medication) and *Siravedh* (bloodletting) whereas various internal medicines and *lepa*'s are described in *Shamana chikitsa* (pacification) therapies.^[5]

MATERIAL AND METHODS :

A detailed literary review has been done to understand the concept of Acne vulgaris and *Mukhdushika* (acne vulgaris) from the existing *Ayurveda* contemporary sciences and modern dermatological textbooks. The latest trends for understanding the disease are also being studied from various peer reviewed journals of both *Ayurveda* and modern sciences.

RESULT AND DISCUSSION :

As there is similarity in age group, symptoms, causes, *Mukhadushika* (acne vulgaris) can be correlated with Acne vulgaris. According to *Ayurveda*, *Shalmali* (Silk Cotton Tree) thorn like thick or hard painful eruption on face of adolescent are called as *Mukhadushika* or *Yuvanpitika*. Combined association of vitiated *Vata*, *Kapha doshas* along with *Rakta* (blood) as *dushya* produces acne.^[3] Acne Vulgaris is a disorder primarily of teenagers and young adults. The permissive factor for the expression of the disease in adolescence is the increase in sebum production by sebaceous glands after puberty.^[8]

NIDAN (causative factors) of Mukhdushika :**Table shows The causative factors of Yuvanapidika or Mukhdushika can also be classified as:-^[9-14]**

<i>KALAJA</i> (Time/age factor)	<i>AHARAJA</i> (food)	<i>VIHARAJA</i> (activities)	<i>MANSIKA</i> (mind/stress factors)
<i>Tarunya</i> (young age)	<i>Ati katu</i> and <i>madhura</i> (excessive spicy and sweet)	<i>Vegavarodha</i> (stoppage of natural urge)	<i>Ati shoka</i> (stress)
<i>Madhyanha</i> (noon)	<i>Guru</i> (heavy to digest)	<i>Jagarana</i> (insomnia)	<i>Kshobha</i> (botheration)
<i>Vasanta</i> <i>rutu</i> (blossom)	<i>Ati snighdha</i> and <i>dugdha varga ahara</i> (oily foods, milk and milk products)	<i>Nidra</i> (excess sleep)	<i>Krodha</i> (anger)
<i>Grishma</i> <i>rutu</i> (summer)	<i>Mamsa</i> (meat)	<i>Upavasa</i> (fasting)	<i>Santapa</i> (irritation)
<i>Sharada</i> <i>rutu</i>	<i>Madhya</i> (alcohol)	<i>Atapa</i> <i>Sevana</i> (excessive sunbath)	<i>Swabhava</i> (behavioral changes)

In Ayurveda, sexual changes depending upon the age are considered as important etiological factors for acne vulgaris. 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) starts with the *shukra dhatu* (semen) development.^[15]

Etiology of Acne Vulgaris :-^[16]

The precise mechanism of acne is not known but there are four major factors responsible for acne formation.

- 1) Increased and altered sebum production.
- 2) Follicular Hyper keratinization (leading to comedones).
- 3) Proliferation and colonization of Propionibacterium acnes and Staphylococcus epidermidis.
- 4) Release of inflammatory mediators like cytokines.

Triggering factors :-^[17]

- 1) Hormonal changes that occur with pregnancy or the menstrual cycle.
- 2) Occlusive cosmetics, cleansers, lotions, and clothing.
- 3) High humidity and sweating.

Associations between acne exacerbations and inadequate face washing, masturbation, and sex are unfounded. Some studies suggest a possible association with skim milk products and high-glycemic diets. Acne may abate in summer months because of sunlight's anti-inflammatory effects. Some drugs e.g. corticosteroids, lithium, phenytoin, isoniazid; worsen acne or cause acneiform eruptions.

SAMPRAPTI of Mukhdushika (acne vulgaris) as per ayurveda :-^[3,6]

Kapha, Vata doshas and Rakta, Meda dhatu prakopa (Vitiation)



*Rasa-Raktadi Dhatwagni Vaishamya
(Medo Dhatwagni Vaishamya)*



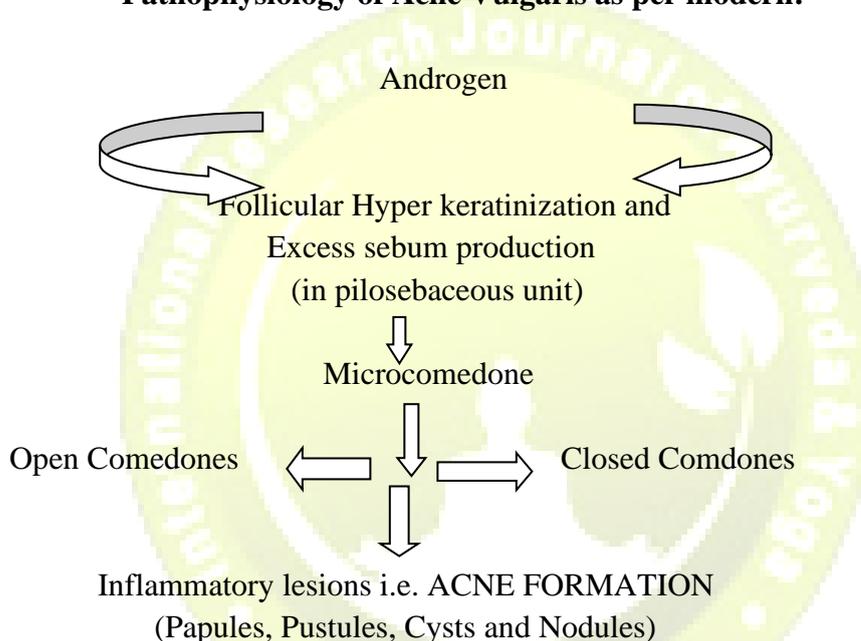
Excess Sweda as mala (Sweda- Meda mala)



Meda sanga in Roma Kupa



Mukhdushika

Pathophysiology of Acne Vulgaris as per modern:-^[18]**Roopa (signs) of Mukhdushika (acne vulgaris):**^[16]

Acharya Vagbhat has described symptoms as – *Pitika* (*Shalmali* like eruption on face), *Ruja* (these *pidika*'s can be painful, this pain can be mild to acute in nature), *Ghana* (*Ghana* means hard, thick), *Medogarbha* (these *pidikas* are impregnated by *Meda*) and *Yunamukha* (they occur on the face of young individuals i.e. *Yuva*). Common symptoms of *Mukhdushika* are *Daha* (burning sensation), *Kandu* (Itching), *Vedana* (Pain), *Srava* (fluid), *Vivarnata* (discoloration), *Raktima* and *Shotha* (inflammation).

Clinical features of Acne Vulgaris according to modern science :-

- Acne usually affects the face and often the trunk. Greasiness of the skin may be obvious (seborrhea). The hallmark is the comedone (open comedones are dilated keratin-filled follicles, which appear as black papules due to the keratin debris; closed comedones usually have no visible follicular opening and are caused by accumulation of sebum and keratin deeper in the pilosebacious ducts. Inflammatory papules, nodules and cysts occur and may arise from comedones. [1]

- Papules and pustules are red lesions 2 to 5 mm in diameter. Papules are relatively deep. Pustules are more superficial.
- Nodules are larger, deeper, and more solid than papules. Such lesions resemble inflamed epidermoid cysts, although they lack true cystic structure.
- Cysts are suppurative nodules. Rarely, cysts form deep abscesses. Long-term cystic acne can cause scarring that manifests as tiny and deep pits (icepick scars), larger pits, shallow

depressions, or hypertrophic scarring or keloids. [17]

Types of Mukhdushika / Yuvanapidika (acne vulgaris) :-[18]

Depending upon the characters of *doshas* and *dhatu*s involved, it can be categorized into 4 groups- *Vataja*, *Pittaja*, *Kaphaja* and *Raktaja*.

Vataja Yuvanapidika – intense itching, scaling, dryness and blackish discoloration of acne lesions.

Pittaja and *Raktaja Yuvanapidika* – redness, heat and pus at acne lesions occur.

Kaphaja Yuvanapidika – increased oiliness and pus at acne lesions.

Classification of Acne Vulgaris :-[19]

Acne may be classified as mild, moderate or severe.

Acne	Comedones	Inflammatory lesions	Total lesion count
Mild	<20	<15	<30
Moderate	20-100	15-50	30-125
Severe	>5 pseudocysts	Comedo count >100 Inflammatory count >50	>125

In 1990, the American Academy of Dermatology developed a Classification scheme for primary acne vulgaris. This grading scale delineates three levels of acne : mild, moderate and severe. Mild acne is characterized by the presence of few to several papules and pustules, but no nodules. Patients with moderate acne have several to 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. [20]

Investigations :-[19]

Investigations are not required in typical Acne Vulgaris. Secondary causes and suspected underlying endocrine disease or virilization should be investigated.

Tests can be done to look for infection, to investigate the cause of the disease, or to monitor treatment.

1) Tests for micro-organisms :-

Generally, a swab/ scrapping from an acne spot or acne-like pustule is obtained for microbiological examination and culture.

2) Hormone tests:- These hormone tests are best taken between 8:00 and 10:00 am during the first half of the menstrual cycle. They may include

Testosterone	Sex hormone binding globulin (SHBG)
Free androgen index (FAI)	Dexamethasone suppression test
Dehydroepiandrosterone sulfate (DHEAS)	Luteinising hormone (LH) and follicular stimulating hormone (FSH)
17-hydroxyprogesterone	Synacthen test of adrenal stimulation by adrenocorticotrophic hormone (ACTH)
Prolactin	Cortisol

3) Imaging :-

- A pelvic ultrasound scan is usually very good at excluding ovarian cysts and tumors on the ovary and adrenal gland.
- X-rays, computed tomography (CT) scans or magnetic resonance imaging (MRI) may also be arranged if there is suspicion of tumor.

4) Tests to monitor treatment :-

Blood tests may be performed to monitor the safety of treatment:

- Full blood count
- Liver function in those on antibiotics or isotretinoin

- Fasting lipids (cholesterol and triglyceride) in those on isotretinoin
- Beta human chorionic gonadotrophin or HCG (pregnancy test) in those on isotretinoin.

Chikitsa Siddhanta (Principle of treatment) of Mukhdushika:-

- 1) *Nidanaparivarjana* (removal of causes)
- 2) *Shodhana Chikitsa* which includes *Panchakarma* procedures.
- 3) *Shamana Chikitsa* includes internal medications and external applications of drugs.

Acharya's mentioned various *shodhana* and *shamana* therapies:-^[21-26]

Classical texts	<i>Vamana</i>	<i>Virechan</i>	<i>Nasya</i>	<i>Raktamokshan</i>	<i>Abhyanga</i>	<i>Lepa</i>
<i>Sushruta samhita</i>	✓					✓
<i>Ashtanga Hridaya</i>	✓		✓	✓		✓
<i>Bhavaprakash</i>	✓				✓	✓
<i>Chakrapani</i>				✓	✓	✓
<i>Sharangdhar samhita</i>						✓
<i>Yogratnakar</i>				✓	✓	✓
<i>Bhaishajya Ratnavali</i>				✓	✓	✓

Vamana Karma- According to Acharya Sushruta,

paste of *Vacha*, *Lodhra* and *Saindhav* mixed

with *Sarsapa* should be given to the patient for emesis. *Vamana* serves to be beneficial in *Mukhdushika*. [21] *Raktamokshan*- The *doshas* involved in *Yuvanapidika* are *Kapha*, *Vata* and

Rakta. *Raktamokshana* is one of the best treatment explained in classics. In *Yuvanapidika*, *Siravedh* and *Jaloukaavcharan* are performed mainly. [22]

Shamana chikitsa is as follows:

Acharyas	Lepa's
Chakradatta [27]	Lodhradi (lodhra, dhanyak, vacha, maricha) Siddharthakadi (siddharthak, vacha, lodhra, saindhav kalka)
Yogratnakar [25]	Jatiphaladi Lepa (Jayaphala, Raktachandan, Kalimarich) Shalmali kantaka Lepa (shalmali kantaka kshir pishten) Matulungadi Lepa (matulunga jata, goghrit, manasheela, goshakrit)
Sharangdhar [24]	Lodhradi Lepa (dhanyak, vacha, lodhra) Vatapandupatradi Lepa (vata pandupatra, malati, raktachandan, kushta, kaliyak)
Bhaishajya Ratnavali [26]	Gorochanadi Lepa (gorochan, maricha)
Sushruta Samhita [21]	Lodhradi/Dhanyakadi Lepa (dhanyak, vacha, lodhra, saindhav, kushtha)

Management of Acne Vulgaris according to modern :

- Mild to Moderate Acne – Topical benzoyl peroxide or retinoids, azelaic acid should be used for mild acne. Initially, it should be applied in low concentrations for short duration and increased as tolerated. For moderate inflammatory acne, a systemic tetracycline should be used as adequate dose for 3-6 months in the first instance. Combined estrogen and anti-androgen (such as cyproterone acetate) contraceptives may provide additional efficacy. [1]
- Moderate to Severe Acne – Isotretinoin has revolutionised the treatment of moderate to severe acne that has not responded adequately to other therapies. It has multifactorial

mechanisms of action, with reduction in sebum excretion by over 90%, follicular hypercornification, *P. acnes* colonization and inflammation. [1]

Treatment of acne involves a variety of topical and systemic agents directed at reducing sebum production, comedone formation, inflammation, and bacterial counts and at normalizing keratinization. Affected areas should be cleansed daily, but extra washing, use of antibacterial soaps, and scrubbing confer no added benefit. A lower glycemic diet and moderation of skim milk intake might be considered for treatment-resistant adolescent acne. Oral contraceptives are effective in treating inflammatory and noninflammatory acne, and spironolactone (beginning at 50 mg orally once a day, increased to 100 to 150 mg [maximum 200 mg] orally once a day after a few

months if needed) is another anti-androgen that is occasionally useful in women. Various light therapies, with and without topical photosensitizers, have been used effectively, mostly for inflammatory acne.[17]

CONCLUSION :

The skin is unique in many ways, but no other organ demands so much attention and concern in both states of disease and health. Acne Vulgaris disfigures the face which affects the personality of person with less confidence and makes him more conscious. *Ayurveda* is a holistic approach towards patient which consider *Mukhdushika* (acne vulgaris) as systemic disease, so various *shodhana* (purification) and *shaman* (pacification) treatments are being mentioned in texts. Creams and lotions can't entirely treat the disease. On the basis of its etiology, pathophysiology, investigations, *Ayurvedic* classical references and the management approach of *Mukhdushika* (acne vulgaris) and Acne Vulgaris, it can be said that there is a large scope to explore and experiment on the management of Acne Vulgaris and *Mukhdushika* further. In the present review, an effort is made to compile scattered references of acne under one roof from both *Ayurveda* and modern perspective.

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REFERENCES:

- 1] Davidson's Principles and Practice of Medicine, 23rd Edition, Chapter no. 29 – Dermatology, Acne Vulgaris, Elsevier publication page no – 1241- 1243
- 2] Acharya Yadavji Trikamji Sushruta Samhita, Nidanastana sutra 13/38-39, Chaukhamba Publication, Varanasi, 2005, pp-900
- 3] Acharya Yadavji Trikamji Sushruta Samhita, Nidanastana sutra 13/38-39, Chaukhamba Publication, Varanasi, 2005, pp-900
- 4] Dr. Brahmanand Tripathi Sharangdhar Samhita, Uttarakhand 11/5, Chaukhamba Surabharti Prakashan, Varanasi 1999, pp-898
- 5] Vd. Yadavji Trikamji Charaka Samhita, Vimana

Sthana 8/122, edited by Acharya, 4th edition, Chaukhamba Surabharati Publications, Varanasi.1994 pp-879

6] Pandit Hari Sadashiva Shastri Paradakar Ashtanga Hridaya Samhita, Uttarasthana 31/6, Chaukhamba Orientalia Varanasi.2002,pp-675

7] Shri Brahmashankar Mishra Bhavamishra, Bhavapraksh, Part 2, Madhyakhand 61/31, 11th edition, Chaukhamba Sanskrit Bhavan, Varanasi.2007, pp-876.

8] Harrison's Principles of Internal Medicine, Volume 1, 20th edition, Elsevier publication page no – 1011-1012.

9] Kumar S, Palbag S, Maurya SK, Kumar D. Skin care in Ayurveda: A literature review. International Research Journal of Pharmacy 2013; 4(3):1-3

10] Bedi Mk, Shenefelt PD. Herbal therapy in dermatology. Arch Dermatol 2002; 138 (2): 232-42

11] Sharma A, Sharma PV, Sushruta Samhita, Volume 1, Varanasi: Chaukhamba Surbharati Prakashan; 2012, page 559.

12] Gupta A, Upadhyaya Y. Ashtanga Hrudaya of Vagbhata, Varanasi: Chaukhamba Prakashan; 2012, pp. 765,769.

13] Shastri B. Yogaratnakara of Lakshmipati Shastri, Uttarardha, Varanasi: Chaukhamba Prakashan; 2012, pp 272-273.

14] Kartikey, Niranjana R, Shreekanth U. A clinical study showing the effect of an Ayurvedic Regimen on Acne Vulgaris. Anaplastology 2012; 1(3):1

15] Sharma H, Bhishgacharya S. Kashyapa Samhita of Vriddha Jivaka, Varanasi; Chaukhamba Sanskrit Sansthan; 2012, pp 79.

16] Tahir CM. Pathogenesis of Acne Vulgaris: Simplified J Pak Assoc Dermatol 2010 (20); 93-7.

17] Abhilasha, S., & O.P., V. D. Understanding Of Yuvana Pidika (Mukhadushika) W.S.R. To Acne Vulgaris And Their Management – A Review. International Research Journal of Ayurveda & Yoga, (2020). 3(10), 244-253.

18] Abhilasha, S., & O.P., V. D. Understanding Of Yuvana Pidika (Mukhadushika) W.S.R. To Acne Vulgaris And Their Management – A Review. International Research Journal of Ayurveda &

Yoga, (2020). 3(10), 244-253.

19] Pochi PE, Shalita AR, Strauss JS, Webster SB, Cunliffe WJ, Katz HI, et al. Report of the Consensus Conference on Acne Classification. Washington, D.C., March 24 and 25, 1990. *J Am Acad Dermatol.* 1991;24:495–500.

20] Pochi PE, Shalita AR, Strauss JS, Webster SB, Cunliffe WJ, Katz HI, et al. Report of the Consensus Conference on Acne Classification. Washington, D.C., March 24 and 25, 1990. *J Am Acad Dermatol.* 1991;24:495–500.

21] Sharma A, Sushruta Samhita Chikitsa sthana shlok 20/36-37 Varanasi, Chaukhamba Surbharti Prakashan, 2010 pp- 332.

22] Tripathi B Ashtanga Hridayam, Uttarasthana, shlok 32/3, Delhi; Chaukhamba Sanskrit Pratishthan, 2009 pp- 11-19

23] Pandit B, Mishra SBS, Bhavaprakash, Madhya khanda, shlok 61/35,44 Varanasi, Chaukhamba Sanskrit Sansthan 2003 pp- 587

24] Tripathi B Sharangdhar Samhita, shlok 11/9-15, Varanasi, Chaukhamba Surbharti Prakashan (2008) pp- 392.

25] Shastri BB Vaidya Laxshamipati Shastri, Yog Ratnakar, Kshudra roga adhikar, Varanasi, Chaukhamba Prakashan, (2012) pp-282

26] Shastri KA Bhaishajya Ratnavali, Kshudraroga Chikitsa, shlok no 60/37-38, Varanasi, Chaukhamba Sanskrit Sansthan, (2001) pp- 663

27] Dr. Indradeo Tripathi Chakradatta “Vaidyaprabha” hindi vyakhya Kshudraroga chikitsa, Chaukhamba Sanskrit Bhawan 2002 pg no- 314-315.

