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ETIOPATHOGENESIS AND THERAPEUTIC MANAGEMENT OF MUKHADUSHIKA W.S.R. TO ACNE VULGARIS: A COMPREHENSIVE CONCEPTUAL REVIEW OF AYURVEDIC CLASSICS

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ABSTRACT

Mukhadushika has emerged as a common dermatological condition in the present era, with increasing prevalence particularly among adolescents and young adults. In Ayurveda it is described under Kshudra roga, characterized by the appearance of Shalmali kantaka like pidika (eruptions) over the mukha (face). Contemporary dermatology describes this condition as Acne Vulgaris which is a chronic inflammatory disorder of sebaceous follicles characterized by formation of open or closed comedones, macules, papules and pustules, less frequently nodules or cysts. Changing diet and lifestyle factors such as improper diet, stress, sleep disturbances, and increasing pollution play a significant role in its pathogenesis. From an Ayurvedic perspective, Mukhadushika is primarily a Kapha–Vata predominant tridoṣaja condition with involvement of Rakta and Meda duṣṭi. The pathogenesis involves doṣa vitiation leading to srotorodha and subsequent lesion formation. The management approach emphasizes nidana parivarjana that is avoidance of causative factors, along with sodhana therapies and samana chikitsa to address the root pathology, alleviate symptoms, and prevent recurrence.

KEYWORDS: *Mukhadushika, Acne Vulgaris, Comedones, Shalmalikantakara, Yuvanapidika, Medogarbhata, Lepa*

INTRODUCTION

In the present era, rapid urbanization and lifestyle transitions have contributed to a notable increase in the incidence of Mukhadushika. It is a cosmetic as well as pathological concern affecting the facial skin (mukha pradesha). The condition not only affects physical appearance but also has psychological implications, especially among youth.

Modern science correlates it with Acne vulgaris, attributed to sebaceous gland hyperactivity and inflammation. Acne vulgaris is a highly prevalent global skin condition, affecting roughly 9.4% of the global population and nearly 85% of young adults aged 12–25. It is the 8th most common disease worldwide. While most common during puberty (up to 57.8% prevalence), acne incidence is increasing in adults, particularly in women.[1]

MATERIAL AND METHODS

This literary review synthesizes information compiled from various authoritative Ayurvedic compendia, including the **Brihatrayi** (*Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya*) and the **Laghutrayi** (*Bhavaprakasha samhita, Sharangadhara samhita and Madhava Nidana*), among other authentic classical texts.

The present study aims to analyze Mukhadushika in the light of classical Ayurvedic principles, with emphasis on nidana, samprapti, and chikitsa, and to explore its relevance in the current clinical scenario.

DISEASE REVIEW

The term Mukhadushika comprises of two words 'Mukha' defining face and 'Dushika' meaning deteriorate, collectively it signifies a disorder that disfigures the face.

Contemporary dermatology describes this condition as Acne Vulgaris which is a chronic inflammatory disorder of sebaceous follicles characterized by formation of open or closed comedones, macules, papules and pustules, less frequently nodules or cysts.
Acne results from a complex interplay of increased sebum production, ductal hypercornification. follicular colonisation with Propionibacterium acnes, and inflammation. Acne lesions begin with the microcomedo, a microscopic lesion not visible to the naked eye. With time, the follicle fills with lipids, bacteria and cell fragments. Ultimately, a clinically apparent lesion occurs, either a non-inflammatory lesion (open or closed comedo) or an inflammatory lesion.[2]

NIDANA: While classical texts do not list a singular etiology for Mukhadushika, a multi-factorial cause is established across the *Samhitas*. Most authorities identify the vitiation of Kapha, Vata, and Rakta as the primary causative factor of the disease. However, Acharya Charaka emphasizes the involvement of vitiated Pitta alongside Rakta in the development of *pidika* (lesions), suggesting Pitta's role should not be overlooked.[3]

Clinically, the hallmark symptom of Medogarbhatva (lesions filled with fatty material) implies that any factors vitiating Meda Dhatu are inherent to the disease's *Nidana*. Furthermore, Bhava Prakasha attributes the condition

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to Svabhava (natural physiological/behavioural shifts), while Acharya Sharangadhara specifically links it to Shukradhatu mala (metabolic by-products of reproductive tissue) leading to vakrasnigdhata and pidika. Broadly, these causative factors are categorized into four types: **Kalaja** (time/age-related), **Aaharaja** (dietary), **Viharaja** (lifestyle),and **Manasika** (psychological).

- Kalaja - Vasanta Ritu, Grishma Ritu, Sharad Ritu, Tarunya (Young age).
- Aharaja; Excess intake of Katu, Tikta, Amla, Lavana Rasa, Snigdha, Guru, Picchila, Abhishyandi Aharasevana, Vidahi Tikshna Ahara.
- Viharaja; Divaswapna, Excess Atapasevana, Ratri jagarana, Vegavarodha.
- Manasika; Atichinta, Atishoka, Atikrodha, Atibhaya, Udvega, Svabhava.

PURVA- RUPA (Premonitory Symptoms/ signs):

The Purva-rupa of Mukhadushika is not specifically mentioned by any Granthakara. The Purvarupa of Kustha may be considered as the Purvarupa. It may be followed as:[4] Asweda (Absence of sweat), Atisweda (Excess sweat), Parushya(Roughness), Atislakshna(Excessive unctuousness), Vaivarnya (Discoloration of skin), Kandu (Itching), Kotha (Allergic manifestation of skin), Nistoda (Pricking pain), Shotha (swelling), Daha (Burning sensation), Kharata (Excess Roughness), Ushmayana(Feeling of warmth), Gourava(Feeling of heaviness), Kayachidresu upadeha(obstruction of cutaneous openings).

RUPA (Sign and Symptoms)

- Shalmali Kantakaprakhya Pidika: The eruptions found in the face are conical in shape, similar to the thorn of Shalmali tree having a broad base and tapering end.
- Pidika – means eruption. The disease is in the form of eruptions.
- Saruja – The eruptions are painful. The pain may be mild or acute in nature.
- Ghana – means thick, hard or indurate. So, the eruptions of the disease are hard and thick.
- Medogarbha – The eruptions are impregnated with Meda. Meda is packed due to the blockage of openings of Medo granthis which resemble comedones in contemporary science.
- Yuna Mukha – This disease occurs on the face of adults. This word shows the importance of site and time of the occurrence of this disease. As it occurs in the face i.e. cheeks, chin, nose and forehead and especially seen in the youth i.e. adolescent age group.

Symptoms according to various Acharyas:

Symptoms	Sushruta[5]	Vagbhata[6]	Madhav Nidan[7]	Yoga Ratnakar[8]	Bhav Prakash[9]	Vangasena[10]
Shalmali Kantakaprakhya	+	+	+	+	+	+
Pidika	+	+	+	+	+	+
Saruja	-	+	-	-	-	-
Ghana	-	+	-	-	-	-
Medo Garbha	-	+	-	-	-	-
Yuna mukhe	+	+	+	+	+	+

SAMPRAPTI(Pathogenesis)

An accurate understanding of Samprapti is fundamental to identifying the specific characteristics of a disease and determining its effective line of treatment. The essential components of this process include the analysis of Dosha, Dushya, Srotas, Agni, Ama, and
the Sthanasamshraya (localization) of Doshas within a site of Khavaigunya (pre-existing weakness).

According to Acharya Sushruta, Yuvanapidika arises from the disturbance of Kapha and Vata alongside the vitiation of Rakta Dhatu. While classical texts do not explicitly detail the entire disease process or the specific involvement of Pitta Dosha, Pitta is inherently implicated through its symbiotic relationship with Rakta; the factors that aggravate one typically vitiate the other. Furthermore, Acharya Charaka asserts that Pitta is essential for the formation of any *Pidika* (lesion). Consequently, the Samprapti involves a complex interaction of all three Doshas, as well as the Rakta, Meda, and Shukra Dhatus are involved directly or indirectly. Although the Vyaktisthana (site of manifestation) is the skin, the involvement of Rasa Dhatu should also be considered in the systemic progression of the condition.

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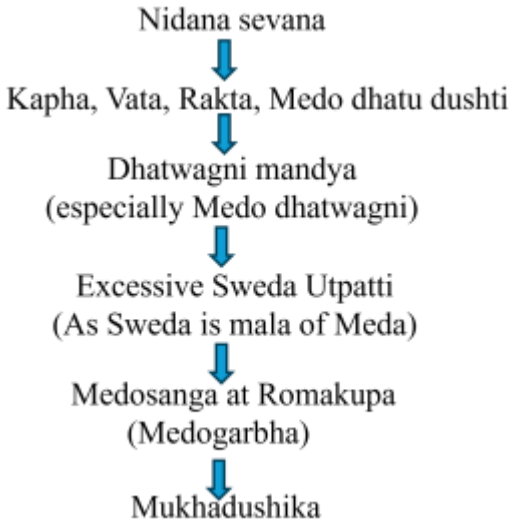
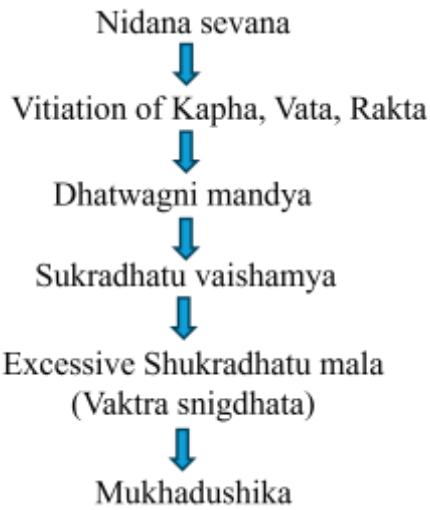
According to Vagbhata-



According to Sharangadhara-



Samprapti Ghataka

- Dosha – Kapha, Vata, Rakta
- Dushya – Rasa, Rakta, Meda, Shukra
- Srotas – Svedavaha, Rasavaha, Raktavaha
- Mala – Sweda, Twak Sneha
- Srotodusti – Sanga, Atipravritti
- Agni – Dhatwagnimandya
- Udbhavasthana – Amashayasamuttha
- Adhistana- Twacha
- Roga Marga – Bahya
- Sadhyasadhyata- Sadhya

CHIKITSA of Mukhadushika

Line of treatment prescribed by different Acharya can be summarized as follows.

- Sushruta – Vamana, Lepa[11]
- Ashtanga Hridaya – Lepana, Vamana, Nasya, Shiravyadh[12]
- Bhavprakash - Lepa, Vamana, Abhyanga[13]
- Yoga Ratnakara - Siravedha, Pralepa, Abhyanga[14]
- Sharangadhara Samhita – Lepa[15]
- Bhaishajjya Ratnavali - Siravedha, Pralepa, Abhyanga[16]

In Ayurvedic texts mainly following two therapies are to be advised for the disease Mukhadushika as-

Shodhan Chikitsa- Vamana, Virechan, Nasya, Raktamokshana etc.

Shaman Chikitsa- Shamana ousadhi(Internal medicine) and Lepa(external applications of drugs).

Shodhana Chikitsa: Acharyas have mentioned Vamana, Virechana, Nasya and Raktamokṣana as Shodhana therapy in the treatment of Mukhaduṣhika.

a. Vamana: Vamana Karma to cure the disease has been mentioned by Acharya Sushruta and Vagbhata. As Vamana is the main therapy for Kaphaja abnormalities, Kapha is one of the main Dosha involved in the pathogenesis.
b. Virechana Karma: This therapy is indicated specially to subside Pitta Dosha or Pitta Sansargaja Dosha. The purgative drugs expel the excess Pitta from the Guda Marga. Property of Rakta is analogous to Pitta Dosha, therefore Virechana is also effective in Raktaja Vikara. Acharya Charaka has explained Upvasa, Virechana and Raktasrava as treatment modalities in Raktaja and Pittaja Vikara. There are many studies have been done where Virechana shows significant effect on management of different skin diseases.
c. Nasya: Nasya Karma for the treatment of Mukhadushika has been indicated by Vagbhata. Acharya Charaka has also mentioned the Nasya Karma in Urdhva Jatrugata Vikara.
d. Raktamokṣana: Acharya Vagbhata and Chakrapaṇi have mentioned Raktamokṣhana as a treatment for Mukhaduṣhika. Acharya Charaka has opined Raktamokṣhana in all the Raktaja diseases, while Acharya Sushruta has mentioned it in some Kṣhudra Roga. Acharya Vagbhata has indicated Siravedha of Lalata region, where frontal and temporal veins are found.

Shamana Chikitsa

a. Internal medication: According to Doṣha and symptoms of Mukhadushika drugs having Kapha Vatahara properties, Strotoshodhaka and which purifies the blood can be used internally. Some herbal drugs useful in the treatment of Mukhadushika are Shalmali, Haridra, Sariva, Vacha, Dhanyaka, Lodhra, Daruharidra, Manjistha, Nimba, Khadira, Guduchi, Methika, Jatiphala and Kakamachi.
b. External medication: Ayurveda classical texts have stated numerous external medications for Mukhaduṣhika and other Kṣudra-roga. Several lepas used in treatment of Mukhadushika are Yashtimadhvadi Lepa, Kaliyakadi Lepa, Sharapunkhadi Lepa, Masuradi Lepa, Lodhradi Lepa, Shalmalikantakadi Lepa, Arjunadi Lepa, Jatiphaladi Lepa, Siddharthadi Lepa, and Marichyadi Lepa.

DISCUSSION

Mukhadushika, described under Kṣudra Roga in Ayurveda, exhibits close resemblance to acne vulgaris in contemporary

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dermatology with respect to age of onset, lesion morphology, and chronic relapsing nature. The classical description signifies raised facial eruptions occurring predominantly during youth, which correlates clinically with comedowns, papules, and pustules observed in acne vulgaris.

From a modern standpoint, acne is a chronic inflammatory disorder of the pilosebaceous unit characterized by increased sebum production, follicular hyperkeratinization, colonization by Cutibacterium acnes, and inflammation.[17] These factors parallel the Ayurvedic concept of Kapha-induced srotorodha, Vata-mediated lesion progression, and Rakta–Meda dusṭi.

Kapha, owing to its snigdha and manda guṇa, can be correlated with hyperseborrhea (increased sebum production) which is largely androgen-driven during adolescence, while Medo duṣhṭi corresponds to sebaceous gland dysfunction and altered lipid composition of sebum. Studies indicate that not only increased sebum but also changes in its lipid composition and oxidative properties play a crucial role in acne pathogenesis.[18] This supports the Ayurvedic understanding of qualitative derangement (guṇa vaiguṇya) of dhatus rather than mere quantitative excess.

This excessive sebum creates a conducive environment for follicular blockage, analogous to srotorodha. Simultaneously, abnormal keratinocyte desquamation leading to microcomedone formation mirrors the Ayurvedic concept of marga avarodha (obstruction of channels).

Vata doṣha contributes to the dynamic progression of lesions, including rupture leading to the release of keratin, bacteria, and lipids into the dermis and associated pain, which may be compared to the inflammatory cascade triggered by follicular disruption in modern pathology.[17] Rakta duṣhṭi manifests clinically as erythema and inflammation, aligning with evidence that inflammation is an early and persistent component of acne lesions.[19] Thus, the Ayurvedic framework provides a comprehensive, multi-dimensional explanation encompassing structural, functional, and inflammatory aspects of the disease.

Dietary and lifestyle etiologies described in Ayurveda such as excessive intake of Guru, Snigdha, Madhura, and Amla ahara, along with Divaswapna and stress are consistent with contemporary evidence implicating high glycemic load diets, dairy consumption, and neuroendocrine stress responses in acne pathogenesis.[20] This establishes a strong etiopathological concordance between classical nidana and modern triggering factors.

In terms of management, Nidana Parivarjana remains the fundamental principle, analogous to trigger avoidance in modern dermatology. However, Ayurveda uniquely emphasizes sodhana chikitsa as a primary intervention to eliminate vitiated doṣas and prevent recurrence. Procedures such as Vamana, Virechana, and Raktamokṣaṇa target Kapha, Pitta–Rakta, and localized pathology respectively, thereby addressing multiple components of disease pathogenesis simultaneously.

Modern treatments including topical retinoids, antibiotics, and hormonal therapy primarily act on individual pathogenic mechanisms such as keratinization, microbial proliferation, or inflammation.[17]While effective symptomatically, they may be associated with adverse effects and recurrence upon discontinuation. In contrast, Ayurvedic sodhana followed by samana chikitsa aims at restoring doṣhic equilibrium and dhatu integrity, thereby offering a more sustainable therapeutic outcome.

Samana therapies, including Lepa (topical applications), internal medications, and Rasayana, contribute through anti-inflammatory, antioxidant, and immunomodulatory effects. Contemporary studies highlighting the role of oxidative stress and inflammatory mediators in acne further support the relevance of these interventions.[18]

CONCLUSION

Mukhadushika represents a multifactorial dermatological condition with significant clinical and psychosocial impact. The Ayurvedic understanding, encompassing Kapha–Vata predominance with Rakta and Meda dusṭi, provides a holistic explanation that aligns closely with modern concepts of acne pathogenesis.

While contemporary management focuses on symptomatic control, Ayurveda offers a comprehensive approach through Nidana Parivarjana, Sodhana, and Samana cikitsa, addressing both the root cause and clinical manifestations. Among these, Sodhana emerges as a cornerstone intervention, particularly in recurrent and moderate-to-severe cases, by eliminating doṣhic vitiation and preventing relapse.

An integrative approach combining classical Ayurvedic principles with modern scientific insights holds promise for more effective and sustainable management of Mukhadushika. Further well-designed clinical studies are warranted to validate these approaches and establish their role in evidence-based dermatological practice.

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