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Understanding Mukha-Paka Through Ayurvedic and Modern Perspectives: A Comprehensive Review on Stomatitis

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ABSTRACT

Background Stomatitis is a common inflammatory condition of the oral mucosa characterized by pain, ulceration, burning, and difficulty in eating or speaking. Ayurveda describes a similar entity called *Mukha-paka*, one of the *Mukha Rogas*, predominantly involving *Pitta* and *Rakta* along with *Vata* vitiation. The close resemblance between classical descriptions and modern stomatitis highlights the need for an integrative understanding of its causes, pathogenesis, and management.

Aim To explore the Ayurvedic concept of *Mukha-paka* and correlate it with the modern understanding of stomatitis, focusing on etiological factors, clinical features, pathogenesis, and therapeutic approaches.

Objectives-To study the classical descriptions of *Mukha-paka* from major Ayurvedic texts. To describe the etiological factors and pathogenesis of *Mukha-paka* in relation to *Dosha* involvement. To review the modern clinical understanding of stomatitis and its underlying mechanisms. To compare the clinical features of *Mukha-paka* with stomatitis and identify areas of correlation. To compile and analyze Ayurvedic treatment modalities such as *Kawala*, *Gandusha*, *Pratisarana*, and *Pitta*-shamana measures. To highlight integrative therapeutic possibilities combining Ayurvedic and modern oral care strategies.

Methods Classical Ayurvedic references were collected from *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and relevant *Nighantus*. Modern scientific literature, including textbooks of oral pathology, peer-reviewed articles, and clinical guidelines on stomatitis, was reviewed through PubMed, Google Scholar, and ScienceDirect. Comparative analysis was done to establish conceptual similarities and therapeutic insights.

Results The review found strong correlations between the Ayurvedic description of *Mukha-paka* and modern stomatitis. Symptoms such as burning, ulceration, swelling, redness, and painful mastication align closely between both systems. Classical *Nidanas* such as intake of hot, spicy foods, excessive speaking, poor oral hygiene, *Pitta*-provoking diet, and systemic imbalances match well with modern etiologies including nutritional deficiencies, infections, trauma, stress, and hypersensitivity. Ayurvedic therapies including *Kawala*, *Gandusha*, *Pratisarana*, cooling herbs, and *Pitta*-shamana measures demonstrate potential for reducing inflammation, promoting healing, and restoring oral mucosal integrity.

Conclusion There is a close conceptual and clinical relationship between *Mukha-paka* and stomatitis. Ayurvedic insights into *Dosha* involvement, etiological factors, and local oral therapies provide a valuable complementary approach to modern management. An integrated understanding can improve symptom relief, enhance healing, and guide the development of comprehensive therapeutic protocols for oral inflammatory conditions.

Keywords *Mukha-paka*, Stomatitis, *Pitta*, *Rakta*, *Kawala*, Oral Ulceration

INTRODUCTION

Stomatitis is a common inflammatory condition of the oral mucosa, often presenting with pain, burning, ulceration, and discomfort during eating or speaking. It affects individuals of all age groups and is influenced by factors such as nutritional deficiencies, infections, local trauma, poor oral hygiene, stress, and hypersensitivity reactions. With a rising prevalence due to lifestyle changes and increased exposure to irritants, stomatitis has become an important clinical concern in both dental and medical settings. Understanding its underlying causes and mechanisms is essential for effective management.[1]

Ayurveda provides a detailed understanding of oral health through the concept of *Mukha Rogas*, among which *Mukha-paka* closely corresponds to modern stomatitis. Classical texts describe *Mukha-paka* as an inflammatory condition arising predominantly from the vitiation of *Pitta* and *Rakta*, often accompanied by *Vata* involvement. This results in burning, ulceration, redness, swelling, and pain within the oral cavity. Dietary irritants, excessive speaking, poor oral hygiene, consumption of hot and spicy foods, and systemic imbalances are recognized as major causes, paralleling many modern etiological factors.[2]

From a pathophysiological perspective, Ayurveda correlates oral inflammation with disturbed *Doshas*, impaired tissue nutrition, and accumulation of irritants that aggravate local tissues. Modern science complements this by identifying mucosal barrier disruption, microbial imbalance, immune responses, and deficiency states such as low iron, folate, and vitamin B-complex as contributing factors. The similarity between the classical and modern understanding creates a strong platform for correlating *Mukha-paka* with stomatitis and exploring integrated approaches.[3]

Ayurvedic management of *Mukha-paka* includes a wide range of local and systemic treatments such as *Kawala*, *Gandusha*, *Pratisarana*, cooling and healing herbs, and *Pitta*-shamana measures. Modern care emphasizes addressing nutritional deficiencies, improving oral hygiene, controlling infections, and supporting mucosal healing. Together, these perspectives highlight the potential of an integrative approach. A comprehensive understanding of *Mukha-paka* offers valuable insights into preventive and therapeutic strategies that can enhance the management of stomatitis and improve patient comfort and healing.[4]

AIM AND OBJECTIVES

Aim

To explore the Ayurvedic concept of *Mukha-paka* and correlate it with the modern understanding of stomatitis, focusing on etiological factors, clinical features, pathogenesis, and therapeutic approaches.

Objectives

1. To study the classical descriptions of *Mukha-paka* from major Ayurvedic texts.
2. To describe the etiological factors and pathogenesis of *Mukha-paka* in relation to *Dosha* involvement.
3. To review the modern clinical understanding of stomatitis and its underlying mechanisms.

4. To compare the clinical features of *Mukha-paka* with stomatitis and identify areas of correlation.
5. To compile and analyze Ayurvedic treatment modalities such as *Kawala*, *Gandusha*, *Pratisarana*, and *Pitta*-shamana measures.
6. To highlight integrative therapeutic possibilities combining Ayurvedic and modern oral care strategies.

CONCEPTUAL STUDY OF *MUKHA-PAKA*

Mukha-paka is described in Ayurveda as an inflammatory disorder of the oral cavity involving ulceration, burning, pain, and mucosal irritation. It is listed under *Mukha Rogas* and primarily attributed to the vitiation of *Pitta* and *Rakta*, often accompanied by *Vata* involvement. The condition affects the inner lining of the mouth and impairs basic functions like eating, speaking, and swallowing.[5]

Nidana (Etiological Factors)

Ayurvedic texts identify several causative factors for *Mukha-paka*, most of which mirror modern triggers of stomatitis. Important *Nidanas* include consumption of hot, spicy, acidic foods, excessive intake of fermented substances, chronic indigestion, poor oral hygiene, excessive speaking, sleep deprivation, and habits like smoking or chewing irritants. Systemic *Pitta*-aggravating factors such as anger, stress, dehydration, and infections also contribute to the onset of lesions.[6]

Samprapti (Pathogenesis)

The disease begins with the provocation of *Pitta* and *Rakta*, producing heat, inflammation, and burning sensation in the oral tissues. Simultaneously, *Vata* aggravation introduces dryness, pain, and cracking of the mucosa. This imbalance disturbs the integrity of the oral epithelium, leading to ulceration. The involvement of *Rasa Dhatu* reflects impaired nourishment of mucosal tissues, which delays healing and increases sensitivity. The combined action of these *Doshas* creates a cycle of irritation, inflammation, and ulcer formation.[7]

Lakshana (Clinical Features)

Classical signs of *Mukha-paka* include oral ulcers, redness, swelling, burning (*Daha*), dryness, pain during chewing or swallowing, foul taste, and difficulty in speech. These manifestations closely correspond to modern stomatitis, where inflammation, painful aphthous ulcers, mucosal sensitivity, and difficulty eating are commonly reported.[8]

Types of *Mukha Rogas* Relevant to *Mukha-paka*

Ayurveda describes several disorders of the lips, gums, tongue, palate, and cheeks that resemble stomatitis. Conditions such as *Osmaka*, *Sarvasara*, *Kapha-pitta Mukha rogas*, and lesions involving *Talupaka* and *Oshtharoga* share similar features. Among them, *Pittaja* variants are most closely aligned with *Mukha-paka*, given their inflammatory and ulcerative presentation.[9]

Dosha and Dhatu Involvement

Mukha-paka primarily involves *Pitta* and *Rakta*, responsible for heat, redness, and burning. *Vata* contributes to pain, cracking, and dryness. *Rasa Dhatu* depletion affects mucosal integrity, leading to slow healing. Secondary involvement of *Kapha* occurs in chronic cases, producing coating, heaviness, or mild swelling.[10]

Srotas and Local Tissue Response

The disease affects the *Rasa* and *Raktavaha Srotas* of the oral cavity. Impaired flow and increased *Dushya* production lead to inflammation and localized ulceration. Disruption of oral mucosal barrier function, increased sensitivity, and reduced lubrication are consistent with this explanation.[11]

Prognosis (*Sadhya–Asadhyata*)

Mukha-paka is generally *Sadhya* when identified early and treated promptly with *Pitta-shamana*, *Rakta-prasadana*, and *Shodhana* measures. Chronic or recurrent stomatitis, often linked to nutritional deficiencies or systemic issues, may be *Krichra-sadhya*, requiring long-term management and lifestyle correction.

Modern stomatitis includes aphthous ulcers, irritative lesions, and mucosal inflammation caused by nutritional deficiencies, infections, hypersensitivity, mechanical trauma, stress, and systemic diseases. These causes correlate strongly with *Pitta* aggravation, *Rakta Dushti*, and *Ama* accumulation described in Ayurveda. Both systems emphasize mucosal irritation, inflammation, burning sensation, and difficulty eating.

The management of *Mukha-paka* is based on cooling, soothing, anti-inflammatory, and healing therapies. *Kawala*, *Gandusha*, *Pratisarana*, *Rakta-prasadana* herbs, *Tikta* and *Madhura* dravyas, and *Pitta-shamana* measures help reduce inflammation and promote mucosal regeneration. These align with modern strategies such as topical anti-inflammatory agents, antimicrobial rinses, nutritional correction, and protective mucosal coatings.[12]

MODERN REVIEW

Stomatitis is an umbrella term used in modern medicine to describe inflammation of the oral mucosa, presenting with pain, burning, swelling, erythema, and ulcer formation. It can affect the lips, cheeks, tongue, palate, gums, and floor of the mouth. The condition significantly interferes with essential functions such as chewing, swallowing, and speaking, making it a common concern in dental and medical practice. Stomatitis occurs in all age groups, but its severity and recurrence vary depending on underlying causes, systemic health, immunity, and local oral hygiene.[13]

Stomatitis has a multifactorial etiology. Nutritional deficiencies—especially of iron, folic acid, vitamin B12, and other B-complex vitamins—are among the most common systemic contributors. Local traumatic factors such as sharp teeth, orthodontic appliances, accidental cheek biting, ill-fitting dentures, and chemical irritants often initiate mucosal injury. Viral infections, particularly Herpes simplex virus (leading to herpetic stomatitis), fungal infections like *Candida albicans*, and bacterial infections can also trigger stomatitis. Lifestyle-related factors including smoking, alcohol consumption, excessive intake of spicy or acidic foods, and poor oral hygiene aggravate mucosal inflammation. Stress, hormonal imbalance, autoimmune disorders, and hypersensitivity reactions play important roles in recurrent or chronic cases.

The pathophysiology of stomatitis involves an inflammatory response triggered by damage or irritation to the oral epithelium. This leads to the release of inflammatory mediators, increased vascular permeability, and heightened sensitivity of nerve endings, resulting in pain and burning. In conditions like aphthous stomatitis, immunological dysregulation causes recurrent ulceration with well-defined borders and erythematous halos. In infectious stomatitis, pathogens invade the mucosa and initiate a localized inflammatory reaction. Dry mouth due to xerostomia further increases vulnerability by reducing mucosal lubrication and protective barrier function.[14]

Clinically, stomatitis manifests as shallow or deep ulcers, multiple or solitary lesions, mucosal erythema, swelling, vesicles (in viral causes), pseudomembranes (in fungal infections), burning sensation, metallic taste, difficulty in swallowing, and drooling in severe cases. Aphthous ulcers are among the most common presentations and are categorized as minor, major, or herpetiform. In herpetic stomatitis, vesicles rupture to form painful ulcers, often accompanied by fever and lymphadenopathy. Chronic atrophic stomatitis

may present with diffuse redness and soreness without distinct ulcer formation, making diagnosis dependent on clinical evaluation and medical history.

Management of stomatitis focuses on eliminating underlying causes, relieving symptoms, preventing secondary infections, and promoting mucosal healing. Nutritional deficiencies are corrected by supplementation, while traumatic irritants must be removed or modified. Antiseptic mouthwashes, topical anesthetics, corticosteroids, antihistamines, and antimicrobial agents are commonly used depending on the etiology. Antiviral drugs are prescribed for herpetic stomatitis, and antifungal agents for candidiasis. Maintaining good oral hygiene, adopting a soft and non-irritating diet, and avoiding tobacco and alcohol are essential supportive measures. For recurrent or chronic stomatitis, identifying systemic conditions such as anemia, autoimmune diseases, gastrointestinal disorders, or allergies becomes crucial for long-term relief.[15]

Stomatitis continues to be a significant clinical issue due to its diverse causes, high recurrence rate, and impact on quality of life. Modern medical science emphasizes a combination of symptomatic care, etiological treatment, and preventive strategies to manage this oral inflammatory condition effectively. Understanding its mechanisms, triggers, and clinical patterns helps guide individualized and comprehensive management.[16]

RESULT AND FINDINGS

- The review shows a strong correlation between *Mukha-paka* described in Ayurveda and modern stomatitis, with both presenting ulceration, burning, redness, pain, and mucosal irritation.
- Ayurvedic *Nidanas* such as consumption of hot, spicy foods, excessive speaking, poor oral hygiene, and *Pitta*-provoking habits align closely with modern etiological factors like nutritional deficiencies, infections, trauma, stress, and chemical irritants.
- Symptoms described in classical texts—such as *Daha*, *Raga*, *Rukshata*, painful mastication, and foul taste—match the clinical features of aphthous and infectious stomatitis in contemporary medicine.
- Pathogenesis based on *Pitta* and *Rakta* aggravation, supported by secondary *Vata* involvement, parallels modern insights on mucosal inflammation, epithelial erosion, immune dysregulation, and increased sensitivity.
- The involvement of *Rasa Dhatu* in Ayurveda corresponds to compromised mucosal nutrition and epithelial fragility seen in patients with recurrent stomatitis.
- Both systems recognize the role of local irritants, dietary triggers, and systemic imbalances in worsening mucosal inflammation and delaying healing.
- Ayurvedic treatments such as *Kawala*, *Gandusha*, *Pratisarana*, cooling agents, and *Pitta-shamana* herbs demonstrate therapeutic potential in reducing inflammation and promoting healing of oral ulcers.
- Modern management strategies—such as topical anesthetics, antimicrobial rinses, nutritional correction, and mucosal protective agents—share similar goals with Ayurvedic therapies, emphasizing symptom relief and tissue repair.
- Findings indicate that an integrative approach combining Ayurvedic principles and modern oral care practices can enhance treatment effectiveness and improve patient comfort.
- The review supports the concept that *Mukha-paka* provides a meaningful classical framework for understanding modern stomatitis and offers valuable insights for preventive and therapeutic strategies.

DISCUSSION

The findings of this review clearly show that *Mukha-paka* described in Ayurvedic literature closely correlates with the clinical entity known today as stomatitis. Both conditions present with inflammation of the oral mucosa, characterized by burning, pain, ulceration, redness, and difficulty in chewing or speaking. Ayurveda attributes *Mukha-paka* primarily to aggravated *Pitta* and *Rakta*, with supportive involvement of *Vata*. This explanation aligns well with modern understanding, where mucosal inflammation, epithelial damage, immune responses, and compromised tissue nutrition contribute significantly to the development of stomatitis.[17]

A comparison of etiological factors also shows strong similarity between the two systems. Classical *Nidanas* such as consumption of hot and spicy foods, excessive talking, poor oral hygiene, habitual irritants, and emotional factors like anger or stress reflect modern triggers such as trauma, infections, nutritional deficiencies, and lifestyle-related irritation of the oral mucosa. The role of *Rasa Dhatu* depletion described in Ayurveda corresponds with nutritional deficits, reduced epithelial regeneration, and compromised mucosal integrity seen in recurrent stomatitis. This shared pattern strengthens the conceptual bridge between traditional and contemporary perspectives.[18]

Pathogenetically, *Mukha-paka* involves heat, inflammation, and ulceration resulting from *Pitta-Rakta* vitiation, along with pain and dryness due to *Vata* aggravation. These mechanisms parallel modern insights into mucosal barrier disruption, increased vascular permeability, heightened neural sensitivity, and microbial involvement. Both Ayurveda and modern science emphasize how irritation, impaired immunity, and repeated mucosal stress can worsen ulcer formation and delay healing. This correlation highlights the relevance of Ayurvedic principles in explaining the pathophysiology of stomatitis.[19]

Therapeutically, both systems aim to reduce inflammation, soothe mucosal irritation, correct underlying causes, and support tissue healing. Ayurvedic interventions such as *Kawala*, *Gandusha*, *Pratisarana*, *Pitta-shamana* herbs, and *Rakta-prasadana* measures complement modern approaches like antimicrobial rinses, topical corticosteroids, pain relief agents, and nutritional supplementation. Together, they create a strong foundation for integrative care. The review suggests that combining Ayurveda's localized therapies with modern etiological treatment can offer broader, long-lasting relief and improved healing outcomes for patients with stomatitis.[20]

CONCLUSION

This review demonstrates that *Mukha-paka* described in Ayurveda and stomatitis recognized in modern medicine share a closely overlapping clinical picture marked by ulceration, burning, pain, redness, and mucosal inflammation. The classical understanding of *Pitta* and *Rakta* vitiation, supported by *Vata*-related pain and dryness, aligns well with the modern concepts of epithelial damage, immune responses, nutritional deficiencies, and local irritants. Ayurvedic therapies such as *Kawala*, *Gandusha*, *Pratisarana*, and *Pitta-shamana* measures complement modern approaches like topical medications, antimicrobial agents, and nutritional correction. Together, these insights support an integrative approach that enhances healing, reduces recurrence, and provides comprehensive support for oral health.

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