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# "RECURRENT APHTHOUS ULCER (PITTAJ MUKHPAK) THROUGH THE DUAL LENS OF AYURVEDA AND MODERN SCIENCE: AN EVIDENCE-BASED REVIEW"

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**Abstract:** Recurrent Aphthous Ulcer (RAU), also known as aphthous Stomatitis or Canker sores, is one of the most frequent ulcerative conditions of the oral mucosa worldwide. Ayurveda correlates this condition with "Pittaja Mukhapaka" characterized by inflammation, burning sensation, redness, and ulcer formation due to vitiation of Pitta dosha and Rakta dhatu . Modern science considers RAU a multifactorial, immune-mediated inflammatory disorder associated with nutritional deficiencies, stress, genetic predisposition, gastrointestinal disturbances, and local trauma. This integrated review synthesizes Ayurvedic and biomedical literature to provide a unified understanding of RAU, its pathophysiology, clinical features, and therapeutic options. Special emphasis is given to Ayurvedic interventions such as Triphaladi Kashaya and Panchavalkala Kwath Ghan Pratisarana , which exhibit wound-healing, anti-inflammatory, and antimicrobial activities. Evidence suggests that integrative approaches may provide superior outcomes in reducing recurrence and promoting mucosal healing.

Keywords- Recurrent Aphthous Ulcer (RAU), Pittaja Mukhapaka , Triphaladi Kashaya , Panchavalkala Kwath Ghan Pratisarana, Integrated review.

## ➢ INTRODUCTION :

Recurrent Aphthous Ulcer (RAU) is a painful, recurrent, inflammatory ulcerative condition affecting non-keratinized oral mucosa. It commonly affects the buccal mucosa, labial mucosa, tongue, floor of the mouth, and soft palate. Prevalence ranges from 5% to 66%, with higher incidence in younger populations. RAU significantly impacts daily activities such as eating, drinking, and speaking.

In Ayurveda, RAU corresponds closely with Pittaja Mukhapaka, described in the texts of Charaka, Sushruta, and Vagbhata. The condition arises from dietary and behavioral factors that aggravate Pitta dosha , leading to vitiation of Rakta and ulceration of the oral mucosa.

This article integrates Ayurvedic and modern scientific views to provide a comprehensive understanding of RAU and explore therapeutic options.

## ➢ ETIOLOGY:AN INTEGRATED VIEW

- Ayurvedic Etiology

Ayurveda attributes Pittaja Mukhapaka to:

* Excessive intake of Pittakara substances (spicy, sour, salty, fried, fermented foods)

* Tobacco chewing, smoking, alcohol intake

* Irregular sleeping habits, late-night wakefulness (Ratri-jagarana)

* Emotional stress and anger

* Poor oral hygiene

* Heat exposure (Atapa sevana)

* Vitiation of Pitta leading to vitiation of Rakta dhatu

All these factors disturb Jatharagni, produce Ama, and cause inflammatory changes in the oral cavity.

- Modern Etiology

Modern research concludes RAU is multifactorial:

* Genetic predisposition (family history increases risk)

* Nutritional deficiencies (iron, folate, B12)

* Stress and psychological factors

* Hormonal fluctuations

* Trauma (sharp teeth, dental appliances)

* Gastrointestinal disorders – Crohn's disease, Celiac disease, Ulcerative colitis

* Immune dysregulation (T-cell–mediated response)

Both systems highlight stress, diet, and local trauma as major triggers.

- **PATHOPHYSIOLOGY**

- Ayurvedic Pathogenesis (Samprapti)

The process begins with Pitta-vitiating factors that disturb Agni, producing Ama. This toxic waste circulates and localizes in the oral cavity, a Pitta-dominant site. When Pitta and Rakta interact abnormally:

* Daha (burning)

* Ruja (pain)

* Raktavarnata (redness)

* Mukhavrana(ulceration)

* Lalastrava(salivation)

occur,representing clinical RAU.

- Modern Pathophysiology

RAU is an Immunologically mediated process involving:

* Excessive T-cell activation

* Cytokines: TNF-α, IL-2, IL-6

* Epithelial apoptosis

* Oxidative stress

* Microbial imbalance

- Histopathology shows:

* Necrosis of superficial epithelium

* Ulcer base with fibrin

* Dense mononuclear infiltration

The processes closely parallel Ayurveda's concept of Pitta-Rakta dushti.

**TABLE -01 Clinical Features**

| AYURVEDIC-CLASSICAL SYMPTOMS OF *PITTAJA MUKHAPAKA*: | MODERN – SIGNS & SYMPTOMS OF RAU |
|---|---|
| Daha (burning sensation) | Painful, shallow round ulcers |
| Ruja (sharp pain) | Yellowish pseudomembrane |
| Raktavarnata (reddish discoloration) | Erythematous halo |
| Mukhavrana (ulcer) | Recurrence every few weeks or months |
| Lalastrava (Salivation) | |

- **TYPES:**

1. Minor aphthae (most common)

2. Major aphthae (deep, prolonged healing)

3. Herpetiform ulcers (multiple small ulcers)

- **MANAGEMENT: AN INTEGRATED MODEL**
  - Modern Treatment- Modern treatment is symptomatic:

* Topical corticosteroids (Triamcinolone 0.1%)

* Topical anesthetics (benzocaine, lidocaine)

* Chlorhexidine mouthwash

* Systemic steroids for severe cases

* Colchicine, thalidomide, dapsone (refractory cases)

* Nutritional supplementation

Limitations include recurrence, side effects, and temporary relief.

- Ayurvedic Treatment

1. Triphaladi Kashaya

Key actions:

* Pitta-shamaka

* Rakta-shodhaka

* Anti-inflammatory

* Antioxidant

* Wound healing

* Antimicrobial

*Triphala (Haritaki, Bibhitaki, Amalaki) is a Rasayana drug used widely for mucosal disorders.

2. Panchavalkala Kwath Ghan Pratisarana Containing bark of:

* Ashwatha

* Udumbara

* Vata

* Plaksha

* Parisha

Benefits:

* Vrana shodhana (wound cleansing)

* Vrana ropana (healing)

* Anti-inflammatory

* Antimicrobial

Ghan (solid extract) provides faster therapeutic effect during local application.

3. Supportive Therapies

* Gandusha / Kavala

* Sita-pitta hara diet

* Stress management

* Correction of lifestyle habits

- **EVIDENCE FROM PREVIOUS RESEARCH**

- AYURVEDIC STUDIES

1. Survase (2017–18): Daruharidra Rasakriya + Madhu showed faster symptom reduction.
2. Chitte (2017–18): Darvyadi Kwath Gandusha improved healing significantly.
3. Valvi (2003): Kamdudha and Pitta-shamaka formulations effective in Mukhapaka.
4. Punekar, Kale studies support Triphala and Haridradi preparations.

- MODERN STUDIES

* Curcumin gel significantly reduces ulcer severity (PubMed).

* Aloe vera accelerates epithelial healing.

* Berberine (from Berberis aristata) comparable to topical steroids in anti-inflammatory activity.

* Cochrane review suggests natural products may reduce recurrence.

Integrative Approach: The Future

Both systems acknowledge the inflammatory and recurrent nature of RAU.

Integrative care combining:

* Ayurvedic internal medicines

* Ayurvedic local therapies

* Nutritional correction

* Stress reduction

* Gentle topical anti-inflammatory agents may yield superior clinical outcomes with fewer side effects.

- **DISCUSSION**

Recurrent Aphthous Ulcer (RAU), correlated with Pittaja Mukhapaka in Ayurveda, represents a complex, multifactorial disorder with significant overlap between classical Ayurvedic concepts and modern biomedical understanding. This review highlights that both systems, despite differences in terminology and framework, converge on key pathological mechanisms such as inflammation, immune dysregulation, and the influence of diet and lifestyle factors.

From an Ayurvedic perspective, the central role of Pitta dosha and Rakta dhatu dushti provides a logical explanation for the classical symptoms such as burning sensation (daha), redness (raktavarnata), and ulceration (mukhavrana). These features closely resemble the inflammatory cascade described in modern science, including cytokine release, epithelial damage, and immune-mediated tissue

destruction. The concept of Ama formation and impaired Agni further parallels the role of metabolic and oxidative stress observed in contemporary research.

Modern medicine recognizes RAU as an immune-mediated condition with contributing factors such as nutritional deficiencies, stress, and genetic predisposition. However, current treatment approaches are largely symptomatic and often associated with recurrence and potential side effects. This limitation underscores the need for a more holistic and preventive approach.

Ayurvedic management offers a multi-dimensional strategy by addressing the root cause through dosha shamana, rakta shodhana, and enhancement of tissue healing. Formulations like Triphaladi Kashaya and Panchavalkala Kwath Ghan Pratisarana demonstrate significant therapeutic potential due to their anti-inflammatory, antioxidant, antimicrobial, and wound-healing properties. These actions are increasingly supported by pharmacological and clinical studies, bridging traditional knowledge with scientific validation.

Additionally, supportive therapies such as Gandusha, dietary regulation, and stress management align well with modern preventive strategies, emphasizing the importance of lifestyle modification in reducing recurrence. The integrative approach combining Ayurvedic therapies with modern symptomatic care may provide synergistic benefits, improving patient outcomes while minimizing adverse effects.

Overall, this review suggests that RAU is best managed through an integrative framework that not only alleviates symptoms but also targets underlying etiological factors. Future research should focus on well-designed clinical trials to further validate Ayurvedic interventions and establish standardized treatment protocols for broader clinical application.

## ➢ CONCLUSION

Ayurveda and modern science provide complementary perspectives on RAU/Pittaja Mukhapaka.

While modern therapies offer symptomatic relief, Ayurvedic interventions address underlying doshic imbalance, improve mucosal immunity, and reduce recurrence. Triphaladi Kashaya and Panchavalkala Kwath Ghan Pratisarana show promise as safe, effective, and holistic treatments. An integrative therapeutic protocol may be the most effective long-term approach.

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