Management of Pharyngitis: An Ayurvedic and Modern Review

Abstract

Background: Pharyngitis is a common upper respiratory tract infection, caused mainly by viruses, while Group A β-hemolytic Streptococcus (GAS) is the most important bacterial cause. In Ayurveda, it is comparable to *Galagraha*, *Kanthashoola*, and certain forms of *Rohini*.

Objective: To review the management of pharyngitis from modern and Ayurvedic perspectives and explore the potential of an integrative approach.

Methods: A narrative review of classical Ayurvedic texts, peer-reviewed articles, WHO recommendations, and modern medical literature was conducted using relevant keywords. Clinical studies, reviews, and treatment guidelines were analyzed.

Results: Modern treatment emphasizes accurate diagnosis and appropriate antibiotic use, whereas Ayurveda focuses on Dosha-based management through herbal medicines, local therapies (*Kavala*, *Gandusha*), and lifestyle measures. Ayurvedic herbs demonstrate anti-inflammatory, antimicrobial, antioxidant, and immunomodulatory properties, although high-quality clinical evidence remains limited.

Conclusion: Integrating evidence-based modern diagnosis with Ayurvedic supportive therapies may improve symptom relief, reduce recurrence, and minimize unnecessary antibiotic use. Further well-designed clinical trials are needed to establish standardized integrative treatment protocols.

Keywords: Pharyngitis, *Galagraha*, *Ayurveda*, Sore throat, Integrative medicine, Review.

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1. Introduction

Pharyngitis is defined as the inflammatory condition of the pharyngeal mucosa, characterized by clinical features such as throat discomfort, *odynophagia*, *dysphagia*, fever, cervical lymph node enlargement, and erythematous changes of the pharynx. Around 70–90% of acute pharyngitis cases are attributed to viral infections, while approximately 5–30% are bacterial in origin, with Group A *Streptococcus* being the predominant bacterial pathogen[1]. Appropriate diagnosis plays a crucial role in avoiding unnecessary antibiotic administration and ensuring prompt management of streptococcal infections.

In *Ayurveda*, pharyngitis is primarily correlated with *Galagraha*, a condition associated with throat pain, difficulty in swallowing, inflammation, and altered speech resulting from the vitiation of *Kapha*, *Pitta*, and *Vata Doshas*. Classical management involves local therapeutic approaches, herbal formulations, purification procedures, and modifications in dietary practices.

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2. Aim

To review and compare Ayurvedic and modern approaches for the diagnosis and management of pharyngitis.

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3. Objectives

1. Review etiopathogenesis of pharyngitis.
2. Correlate pharyngitis with Ayurvedic disease concepts.
3. Evaluate Ayurvedic therapeutic modalities.
4. Review current modern management guidelines.
5. Identify evidence supporting integrative management.

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4. Methodology

Methodology

Study Design

The present study was conducted as a narrative review to critically analyze and compare the concepts of pharyngitis and its management from both Ayurvedic and modern medical perspectives. The review was designed following accepted principles for literature reviews to ensure a systematic, transparent, and comprehensive approach to evidence collection and synthesis.

Literature Search Strategy

A comprehensive literature search was conducted using electronic databases, including PubMed, Google Scholar, Scopus, ScienceDirect, and the Cochrane Library. Classical *Ayurvedic* references were evaluated from traditional texts such as *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Madhava Nidana*, and *Bhavaprakasha*, along with relevant peer-reviewed

Ayurvedic journals. Current clinical recommendations related to the diagnosis and management of pharyngitis were also reviewed from guidelines provided by the World Health Organization (WHO), the Infectious Diseases Society of America (IDSA), and the Centers for Disease Control and Prevention (CDC).

Search Keywords

The literature search was performed using a combination of Medical Subject Headings (MeSH) and free-text keywords, including *Pharyngitis*, *Acute Pharyngitis*, *Sore Throat*, Group A *Streptococcus*, Upper Respiratory Tract Infection, *Ayurveda*, *Galagraha*, *Kanthashoola*, *Rohini*, Herbal Medicine, *Panchakarma*, Integrative Medicine, Management, and Clinical Trial. Boolean operators (AND, OR) were applied to optimize the search strategy and identify relevant scientific publications.

For *Ayurvedic* literature, data related to disease correlation, *Nidana*, *Samprapti*, *Lakshana*, *Chikitsa Siddhanta*, and therapeutic approaches were collected and analyzed from classical texts.

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5. Modern Review

Pharyngitis is an inflammatory condition of the pharyngeal mucosa extending from the posterior nasal cavity to the upper esophagus and larynx. It is a common disorder encountered in primary care and ENT practice worldwide. Although usually self-limiting, it remains a significant health concern due to its high prevalence, impact on quality of life, reduced productivity, and inappropriate antibiotic use {2}. It commonly affects all age groups, with increased incidence among children, adolescents, and young adults[3].

Etiology

The etiology of pharyngitis includes infectious and non-infectious causes. Viral infections account for the majority of acute cases (70–90%), commonly involving rhinovirus, adenovirus, influenza virus, and other respiratory viruses[4]. Viral pharyngitis is generally self-limiting and improves with supportive care. Bacterial pharyngitis is less common, with Group A β-hemolytic *Streptococcus* (*Streptococcus pyogenes*) being the most clinically important pathogen due to its potential complications such as rheumatic fever and post-streptococcal glomerulonephritis[5].

Non-infectious causes include exposure to smoke, pollutants, allergens, dry air, vocal strain, gastroesophageal reflux disease (GERD), and mucosal irritation. These cases usually require treatment focused on the underlying cause.

Pathophysiology

The pathophysiology of pharyngitis involves microbial colonization or exposure to irritants, resulting in activation of the local immune response. This leads to the release of inflammatory mediators such as interleukins, tumor necrosis factor-alpha (TNF-α), prostaglandins, and chemokines, causing vascular changes and recruitment of immune cells. Consequently, inflammation develops, producing symptoms such as erythema, edema, throat pain, and difficulty in swallowing. Viral infections usually cause a mild, self-limiting inflammatory response, whereas streptococcal infections induce a stronger reaction due to bacterial virulence factors.

Clinical Features

Patients with pharyngitis commonly present with sore throat, *odynophagia*, *dysphagia*, fever, malaise, headache, and cervical lymphadenopathy. Examination findings may include pharyngeal erythema, tonsillar enlargement, exudates, palatal petechiae, and tender cervical lymph nodes. Viral pharyngitis is often associated with cough, rhinorrhea, conjunctivitis, and hoarseness, whereas bacterial infection is more commonly characterized by high fever, tonsillar exudates, absence of cough, and painful cervical lymphadenopathy[6].

Accurate diagnosis is important as clinical features alone cannot reliably distinguish viral from bacterial causes. Clinical scoring systems such as the Centor and Modified McIsaac Scores help assess the likelihood of Group A *Streptococcus* infection. Patients with increased risk are evaluated using Rapid Antigen Detection Tests (RADTs), while throat culture remains the confirmatory standard, particularly in children and adolescents with negative rapid tests [7,8]. Additional investigations such as complete blood count (CBC), C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), and serological tests may be considered in selected cases.

Treatment

Management of Pharyngitis

The main goals of pharyngitis treatment are symptom relief, elimination of bacterial infection when present, prevention of complications, reduction of transmission, and avoidance of unnecessary antibiotic use[6]. As most cases are viral, supportive management remains the primary approach, including adequate hydration, rest, warm saline gargles, steam inhalation, and analgesic or antipyretic medications for pain and fever relief.

Antibiotics are indicated only in confirmed or highly suspected Group A *Streptococcus* infections[8]. Penicillin V and amoxicillin are preferred first-line agents due to their effectiveness and narrow antimicrobial spectrum[7,8]. Alternative antibiotics, such as macrolides or selected cephalosporins, may be used in patients with penicillin allergy. Appropriate antibiotic therapy helps reduce symptom duration, transmission, and the risk of complications.

A major concern in pharyngitis management is unnecessary antibiotic prescribing for viral infections, which contributes to antimicrobial resistance, increased healthcare costs, and adverse effects. Therefore, evidence-based diagnosis, antimicrobial stewardship, and patient awareness regarding the self-limiting nature of viral pharyngitis are essential. Recent approaches emphasize rapid diagnostic methods and supportive strategies to improve outcomes while minimizing inappropriate antibiotic exposure.

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6. Ayurvedic Review

Ayurvedic Correlation of Pharyngitis

Pharyngitis is not mentioned as an independent disease entity in classical *Ayurvedic* texts. Based on its clinical manifestations, it can be primarily correlated with *Galagraha*.[9] According to the severity, *Dosha* involvement, and pathological changes, similarities may also be observed with *Pittaja/Kaphaja Rohini* and *Kanthashaluka*, especially in chronic and recurrent inflammatory conditions[10].

Nidana (Etiological Factors)

The causative factors include excessive consumption of *Guru*, *Abhishyandi*, *Ati-Sheeta*, *Amla*, and *Snigdha Ahara*[11], frequent intake of refrigerated food and beverages, exposure to dust and smoke, excessive vocal strain, improper oral hygiene, suppression of natural urges, and impaired digestion (*Agnimandya*). These factors contribute to the formation of *Ama* and aggravation of *Doshas*.

Samprapti (Pathogenesis)

Due to *Agnimandya*, accumulation of *Ama* occurs, which interacts with aggravated *Kapha* and *Pitta Doshas*.[11] These vitiated *Doshas* localize in the *Kantha Pradesha*, leading to obstruction of channels (*Srotorodha*) and producing inflammation, pain, swelling, redness, and difficulty in swallowing. Increased *Vata* further contributes to throat pain and voice changes[10].

Lakshana (Clinical Features)

The clinical features described in *Ayurvedic* texts include *Galashoola* (throat pain), *Gala Shotha* (swelling), *Gala Daha* (burning sensation), *Kashtena Nigirana* (difficulty in swallowing), *Svarabheda* (hoarseness of voice), fever, and throat discomfort, which closely resemble the manifestations of pharyngitis.

Principles of Ayurvedic Management

Management of pharyngitis in *Ayurveda* is based on *Nidana Parivarjana*, *Ama Pachana*, *Dosha Shamana*, *Shodhana*, local therapeutic procedures, and *Rasayana* therapy[13]. Treatment is individualized according to disease stage, predominant *Dosha*, and the patient's general health status[12].

Treatment

The primary step in management is *Nidana Parivarjana*, which involves avoidance of causative and aggravating factors[13]. Patients are advised to avoid cold foods, refrigerated items, excessive spicy and oily food, smoking, alcohol, dust exposure, and excessive voice use. Warm, fresh, easily digestible meals with adequate hydration are recommended to support digestion and recovery.

During the initial stage, particularly in the presence of *Ama*, *Deepana* and *Pachana* therapies are advised to improve *Agni* and facilitate removal of metabolic impurities. Formulations containing *Trikatu*, *Shunthi*, *Pippali*, and *Chitraka* may be selected according to individual requirements to enhance digestion and reduce *Kapha* accumulation[14].

After *Ama* reduction, *Shamana Chikitsa* is implemented using herbs with anti-inflammatory, antimicrobial, analgesic, soothing, and immunomodulatory properties[14]. *Yashtimadhu* provides throat soothing effects and helps reduce inflammation[15]. *Khadiradi Vati* is traditionally used for throat irritation, hoarseness, and oral infections due to its mucosal protective and antimicrobial actions[16]. *Sitopaladi Churna* and *Talisadi Churna* may help in relieving cough, throat irritation, and mucus accumulation[14], while *Guduchi*, *Haridra*, and *Tulsi* support immune function and inflammatory regulation[13]. Selection of medicines depends on *Dosha* predominance and clinical assessment.

Local procedures described under *Shalakya Tantra* have significant importance in throat disorders. *Kavala* (medicated gargling) and *Gandusha* (retention of medicated liquids in the oral cavity) help cleanse the throat, reduce inflammation, decrease microbial load, relieve discomfort, and support mucosal healing[12]. Herbal preparations containing *Yashtimadhu*, *Triphala*, *Khadira*, and *Panchavalkala* are traditionally used[12]. *Pratisarana*, involving local application of herbal powders or pastes, may be beneficial in selected chronic conditions.

In recurrent or chronic cases associated with marked *Dosha* imbalance, *Shodhana Chikitsa* may be considered after proper evaluation. *Virechana* is mainly indicated in *Pitta*-dominant conditions, whereas *Nasya Karma* is beneficial in disorders of the *Urdhvajatrugata* region and may support upper respiratory tract health[10].

After completion of the acute phase or following *Shodhana*, *Rasayana* therapy is recommended to enhance immunity, improve tissue resistance, and prevent recurrence[13]. Drugs such as *Guduchi*, *Amalaki*, *Chyawanprasha*, and *Pippali Rasayana* are traditionally used to strengthen host defense and promote respiratory health.

Dietary and lifestyle modifications are essential components of management. Consumption of warm water, light and digestible food, vegetable soups, and freshly prepared meals is encouraged, while cold exposure should be avoided. Maintaining oral hygiene, adequate sleep, stress management, and following seasonal practices (*Ritucharya*) help in recovery and prevention of recurrent episodes[12].

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7 Discussion

Pharyngitis is a frequently encountered upper respiratory tract disorder where accurate diagnosis plays a vital role in distinguishing viral infections from bacterial etiologies. Modern medical practice emphasizes evidence-based diagnostic approaches and appropriate antibiotic prescribing, while supportive management remains the primary treatment strategy for viral cases. This helps in preventing complications and limiting unnecessary antibiotic exposure.

In *Ayurveda*, pharyngitis is mainly correlated with *Galagraha*, while certain clinical features may overlap with *Rohini* and *Kanthashaluka*. The therapeutic approach includes *Nidana Parivarjana*, *Deepana-Pachana*, *Shamana Chikitsa*, local procedures such as *Kavala* and *Gandusha*, and *Rasayana* therapy aimed at symptom relief and enhancement of immunity. Various medicinal plants, including *Yashtimadhu*, *Guduchi*, and *Haridra*, have shown anti-inflammatory and immunomodulatory effects in experimental and clinical research.

Despite encouraging findings, existing *Ayurvedic* studies are limited by small sample sizes, variations in treatment protocols, and inadequate methodological standardization. Therefore, well-structured randomized controlled trials are needed to generate stronger scientific evidence. An integrative approach combining modern diagnostic strategies with evidence-based *Ayurvedic* supportive therapies may provide improved symptom control, decrease recurrence, and support rational antibiotic utilization.

8 Conclusion

Pharyngitis is a common inflammatory condition that requires timely diagnosis and appropriate therapeutic management. Modern medicine offers accurate diagnostic approaches and evidence-based treatment strategies, while *Ayurveda* provides a holistic framework through dietary modifications, herbal formulations, local therapeutic procedures, and immunity-enhancing interventions. Integration of both approaches may contribute to improved patient outcomes. However, further high-quality clinical studies are required to establish the efficacy of *Ayurvedic* interventions and to develop standardized protocols for integrative management.

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