



Review Article

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EARLY DETECTION AND VALIDATION OF PREVENTIVE MEASURES OF ORAL SUBMUCOSAL FIBROSIS WITH SPECIAL REFERENCE TO SARVASARA MUKHAROGA: A LITERARY REVIEW

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ABSTRACT

The oral cavity is considered a reflection of the body's internal systems. As a result, significant efforts must be done to keep it healthy and free of chronic illnesses that may result in unfavourable outcomes. Oral Submucous Fibrosis (OSMF) is a chronic debilitating condition of the oral cavity that involves the formation of constricting bands of collagen fibre in the oral mucosa over time, resulting in restricted movement of the mouth and tongue and eventually hindered or problematic speech and difficulty swallowing food. Many pharmacological and surgical techniques have been used in modern terms, but the outcomes have been unsatisfactory due to recurrence and dire consequences. When the symptomatology of OSMF is compared to Ayurvedic classics, it can be classified as Vata Pitta Pradhana Sarvasara Mukharoga. An attempt was made here to explore preventive measures for OSMF using Ayurvedic methods. This study will discuss treatment at both the local and systemic levels. Local modalities such as vrana shodhana and, vrana ropana pratisarana (rubbing) & kavala (gargling) halt disease progression, and these local therapies prevent and reverse fibrosis while also improving motor functions of the mouth. Systemic therapy restores balance and improves the oral mucosa's vitality. This study emphasizes how the treatment approach is superior to all other surgical and nonsurgical treatments. Early withdrawal of destructive behaviours and adequate therapy with ayurvedic medications aid in managing OSMF.

Keywords: Sarvasara Mukharoga, Oral Submucous Fibrosis (OSMF), Vrana Shodhana, Vrana Ropana, Pratisarana, Kavala.

INTRODUCTION

The term "Oral Submucous Fibrosis" (OSMF) is derived from the words "oral," "submucous," and "fibrosis," which means "hardening and scarring", blanching and rigidity of the oral mucosa, trismus and a burning sensation in the mouth. It is a chronic disabling disease of the oral cavity characterized by growing fibrosis and inflammation of the submucosal tissues (lamina propria and deeper connective tissues), resistance to eating hot and spicy meals, vesicular eruption and ulceration of the buccal mucosa, palate, and pillars, loss of gustatory sensation, and other symptoms are expected.¹

Prevalence

In 1996, the global number of OSMF cases was estimated to reach 2.5 million. Despite several case-finding studies in South and Southeast Asia, OSMF is not a notifiable disease, and no population-based data are available. OSMF is predicted to affect 0.2–2.3 percent of males and 1.2–4.6 percent of females in India, with a wide age range of 11 to 60 years.

The increasing marketing of commercial tobacco and areca nut products commonly referred to as Gutkha and sold in single-use packets, has increased. It is currently estimated that areca nut is taken by 10–20 percent of the world's population in various formulations. There is also a big concern in the global South Asian diaspora, with cases documented from the United Kingdom, the United States, South Africa, and many European countries.²

Oral health has an impact on overall health and vice versa. Because the mouth is the gateway to the digestive and respiratory tracts, its health and hygiene are important. If oral hygiene is insufficient, harmful germs will proliferate in the mouth cavity. And the germs may be swallowed along with saliva or food, allowing bacteria to enter the digestive tract, or they could be breathed into the lungs and move through the bloodstream. As a result, adequate oral hygiene is required to prevent both oral and diseases like OSMF.³

Strategy/Approach of study

Chewing areca nuts and other products causes stains (tartar) in the mouth and teeth. This stain occurs due to nicotine and arecoline present in areca nut, weakening the gums and roots. The most common symptoms of OSMF are a burning sensation in the mouth followed by dry mouth.

The symptoms of OSMF ⁴ includes:

- Burning sensation and blanching of the oral mucosa,
- Moderate limit of mouth opening,
- Bud-shaped or shrunken uvula,
- Depapilated tongue and ulceration on the tongue,
- Blister or marble-like appearance on the soft palate, and inflammation in oral mucosa occurs,
- Mobility of the tongue and soft palate decreases and
- Excessive salivation and bad breath.

Ayurveda is an ocean of medicine and procedures for various diseases, in which symptoms of OSMF coincide with sarvasara mukharoga. Adopting the line of treatment mentioned in the mukharoga chapter can also be preventive and curative.

Procedures mentioned in classics for Mukharoga are as follows-

- Dantadhavana
- Mukhaprakshalana.
- Jivha Nirlekhana
- Nasya
- Kaval
- Gandusha
- Dhumapana

Dantadhavan / Dattuna (Chewing sticks/brushing teeth)

Brushing your teeth can help prevent cavities, gingivitis, and gum disease by removing dental plaque and tartar from your teeth. According to Ayurvedic scriptures, datuna (chewing sticks) should be consumed in the morning and after each meal to prevent oral ailments. The method of use is to crush one end, chew it, and then slowly brush it with the other. It is preferable to take from a live plant. Dantadhavan stems should be robust, supple, and free of leaves and knots. Datuna is torn into two sections and used to scrape the tongue coatings after cleaning the teeth. Dantadhavan, according to Acharya Sushruta, should be fresh and straight. It should have a length of 12 Angul (9 inches) and a thickness of kanishtika anguli (little finger). Rasa should be 'kashaya' (astringent), 'katu' (acid), or 'tikta' (bitter) for these herb sticks. Madhura rasa is also included in Acharya Sushruta. The effect of dantadhavan is that it eliminates poor mouth odour and increases appetite by removing mala from the teeth, tongue, and mouth.^{5,6}

Pratisarana (Massaging the Gums & Teeth)

Material Used: Ayurvedic tooth powder is made by mixing fine powders of Triphala (Haritaki - *Terminalia chebula*, Bibhitaki - *Terminalia bellirica*, and Amalaki - *Emblica officinalis*), Trikatu (Ginger- *Zingiber officinale*, Long pepper - *Piper longum*, and Black pepper - *Piper nigrum*), and Trijataka (Cinnamon - *Cinnamomum verum*, Cardamom - *Elettaria cadamomum*, and Bay leaf - *Laurus nobilis*) with honey or lukewarm water. Substitute: sesame oil.

Daily Activity: Once a day, either in the morning or at night, after brushing.

The duration: Two minutes.

The method: The herbal mixture of sesame oil is applied to the gums and teeth in a side-to-side motion with the index finger. Then use water to rinse.

Advantages: Stretches the gums and improves blood flow.⁷

Kavala (Gargle)

Material Used: Warm Water. Daily Activity: every time you eat. The duration: Ten seconds.

The method: The mouth is filled to half its capacity with lukewarm water, rapidly swished or moved inside the mouth before being spit out.

Advantages: Removes the plaque and food debris that are the leading causes of oral health issues and also gets rid of bad taste and too much saliva.⁸

Gandusha (Oil pulling)

The material used: sesame oil. Daily Activity: once a day, after scraping your tongue. The duration is four to five minutes.

The method: Sesame oil is sprayed all over the mouth until uncontrollable salivation, tears from the eyes, or mucous/watery

discharge from the nose, and then the oil is spit out. The mouth is sprayed to its total capacity. After that, rinse with lukewarm saline water.

Advantages: Since bacteria and plaque are soluble in fat, they stick to oil and are eliminated when we spit them out. The oil's active ingredients are absorbed into the oral mucosa and build resistance to oral health issues, preventing dry mouth, cracked lips, tooth sensitivity, tooth decay, toothache, and receding gums while treating dry mouth, strengthening the jaw, gums, and teeth.

Jivha nirlekhana (tongue scrapping)

It is performed after danta dhavana (teeth cleaning) using a gentle tongue scraper or by massaging the tongue. Scraping the tongue with a metal scrapper from root to tip is done carefully. The scraping of the tongue should be done with gold, silver, copper, stainless steel, or tree branches. It should be twelve fingers long. Its edge should be blunt to avoid damaging the tongue, and it should be curved to make it easier to use. This stimulates the entire digestive tract and raises agni levels (digestive fire).⁷

Pratimarsha Nasya (Oil Application in Nostrils)

Material Used for nasya is sesame oil or ghrith. Frequency of nasya varies as per prakriti and disease. It is administered twice a day, preferably after tongue scrapping & before bedtime.

Dosages 1 – 2 drops.

Method: Apply one to two drops of sesame oil or ghee on a little finger and smear inside each nostril or apply directly using a dropper. Pratimarsha nasya prevents gum disease by strengthening the sensory organs and the areas above the neck, particularly the mouth cavity.⁹

Dhumapana (Herbal smoke inhalation)

Dhumavarti, or herbal wick, is the name given to the material used in dhumapana. It is made from turmeric (*Curcuma longa*), Guggulu (*Commiphora mukul*), and other herbs. Once per day, following oil instillation into the nostrils, is the daily frequency for best results. It should be done three times in each nostril for five minutes.

Method: The fire is put out by burning the herbal wick. After inhaling the smoke through one nostril at a time and closing the other, the process is repeated three times in each nostril. The smoke inhaled must constantly be exhaled through the mouth. dhumapana helps damaged tissue by giving teeth firmness, a pleasant smell, and clarity to the mouth. It stops mouth exudations and taste loss.⁹

DISCUSSION

The above procedures are found to be effective not only in OSMF, but they will help to take care of Oral hygiene, and many diseases can be avoided by making them part of our daily routine. In addition to that below points make them more convenient.

Simple - A procedure that is easy or simple; unlike other procedures such as abhyanga, udhwartana, karnapurana, and nasya (which require expert aid), kavala is a relatively easy treatment that does not require specialist assistance. It can be done anywhere. In comparison to others, the atiyoga lakshanas are not as severe.

Economical - The yogas used for the kavala are not expensive. sukoshna jala (lukewarm water), dugdha (cow milk), madhu (honey), tila taila (sesame seed oil), and gomutra (cow urine) are among the nitya sevaniya dravyas. Therapy must be inexpensive

in developing countries like India, where over 70% of the population is from a low socioeconomic category.

No time-consuming - This operation will take 5-10 minutes to complete. Even in today's world, life has become increasingly mechanical and hectic. Everyone prefers modalities that are quick and don't require an extended stay in the hospital. Kavala is correct in this sense.

Higher efficacy - Kavala comes in a relatively small quantity, yet its action is well-liked. The process approach, which has both local and systemic effects, could be the reason for this.

Oral hygiene is not maintained adequately in modern life due to a lack of time and ignorance. Oral hygiene disorders are treated with a variety of therapies in modern medicine. Current procedures are costly and cause many difficulties for patients. As a result, it became essential to create a simple and cost-effective Ayurvedic medicinal measure. In oral submucous fibrosis (OSMF), pratishedopaya dantadhavana, jiwhanirlekhana, gandusha, and kavala have an advantage over the other two since it has four benefits: health promotion, prevention, curative, and restorative.

CONCLUSION

Oral submucous fibrosis (OSMF) is a precancerous, persistent, and progressive condition. It is one of the unreasonable and unacceptably treated diseases. Although its genesis is unknown, all published literature and investigations have determined that areca nut, tobacco, and pan masala are the causal agents of this condition. The prevalence of OSMF in India is significant due to the market availability of commercial tobacco-containing goods. This study attempts to comprehend the most recent aetiology and prevention aspects. Current surgical and nonsurgical treatments for OSMF are ineffective. However, an alternative treatment using ayurvedic medications shows efficacy and effectiveness in improving symptoms. Furthermore, Ayurvedic treatment guarantees disease cure without the need for pharmaceutical side effects. It is considered that ayurvedic treatment for OSMF produces better results than conventional surgical and nonsurgical treatments.

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