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Burning Mouth Syndrome – A Review

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Abstract

Burning mouth syndrome (BMS) is a complex disorder that is characterised by warm or burning sensation in the oral mucosa without changes on physical examination.

Burning mouth syndrome is also known as burning tongue ,sore tongue, burning tongue syndrome,or sore mouth. Burning mouth syndrome described painful sensation of the tongue, lips and palate. It may also involve a general sensation of discomfort of the whole mouth. In this condition no underlying dental or medical causes such as lesion can be identified. This condition affects chiefly of the middle aged and elderly woman with hormonal changes or psychological disorders. So far, there is no definitive cure for this condition and most of the treatment approaches, medication remains unsatisfactory.The purpose of this review is to provide a detailed documentation of occurrence, causes, symptom and management of burning mouth syndrome and thus help in spreading awareness and of the syndrome.

Keywords-Burning mouth syndrome, burning, tongue, management, etiology

INTRODUCTION

Burning mouth syndrome (BMS) is a complex disorder that is characterised by warm or burning sensation in the oral mucosa without changes on physical examination.[1] Burning mouth syndrome (BMS) refers to chronic orofacial pain without any visible mucosal changes or lesions such as stomatodynia, glossodynia, neuropathic pain, glossopyrosis.[2]Burning mouth syndrome is prevalent in middle aged and elderly women who are more prone to have hormonal imbalance and psychological disorders. The most common areas which may get affected are the tongue, lips, hard and soft palate. In addition to burning sensation, patient with BMS also complains of oral mucosal pain, altered taste sensation, and dry mouth. This condition is probably of multifactorial origin, often idiopathic and its exact etiopathogenesis

Remains unclear.[3]Till date, there is no definitive cure for burning mouth syndrome, all the medication and treatment so far tried have remained unsatisfactory. As a result, a multidisciplinary approach is required for better control of the symptoms. In addition, psychotherapy and behavioral feedback may also help eliminate the BMS symptoms.[1] The purpose of this review article is to provide a detailed documentation of occurrence, causes, symptom and management of burning mouth syndrome and thus help in prevention of the syndrome.

CLASSIFICATION OF BURNING MOUTH SYNDROME

Different classification types of burning mouth syndrome have been proposed with regards to different criteria. Lamey and Lewis have suggested classifying BMS into three subtypes according to variations in pain intensity over 24 hours.[4][5] Type 1 BMS is characterised by a pain-free waking, with burning sensation developing in the late morning, with the severity gradually increasing during the day, and reaching its peak intensity by evening. This type affects approximately 35% of patients and is linked to systemic disorders such as nutritional deficiency, diabetes mellitus.[6]Type 2 consists of continuous symptoms throughout the day. Patients find it difficult to sleep. 55% of the patients are affected by this type and this type is usually associated with psychological disorders. Type 3 BMS is characterised by intermittent symptoms with pain-free periods during the day. Frequently, these patients constitute 10% of total patients and show allergic reactions.[7][8]

Scala et al. classified BMS into two categories: 'Primary' or idiopathic burning moth syndrome, in which local or systemic causes cannot be identified, and involving peripheral or central neuropathological pathways. "Secondary" burning mouth syndrome, resulting from local, systemic or psychological factors.[7]

CLINICAL FEATURES

It is extremely hard to establish the true prevalence of BMS due to the lack of appropriate and definitive diagnostic criteria and their awareness among the oral health care professionals. M. The prevalence of BMS reported from various international studies ranges from 0.6% to 15%.[9] BMS is basically a disorder of middle-aged and elderly individuals with an age range of 38-78 years.[7] The prevalence of burning mouth syndrome increases with age in both males and females.. Epidemiological studies reveal that this condition is particularly common among peri- and post-menopausal women where the prevalenceof burning mouth syndrome increases up to 12-18%.[10] This condition is extremely rare in patients under 30 years and never been reported in children and adolescence.[8]

The clinical manifestation of burning mouth syndrome is diverse and variable. Most of the patients find it difficult to explain the sensation. Burning mouth syndrome is characterized mainly by an intense burning or stinging including nutritional deficiencies, hormonal changes associated with xerostomia, menopause, local oral infections, denture-related lesions, hypersensitivity reactions, and a number of systemic conditions including diabetes mellitus.[2] Oral burning pain remains the chief symptom of BMS. Most individual describes this symptom as burning, tingling, scalding, annoying, tender, or numb feeling of the oral mucosa, most commonly involving the anterior 2/3rd of the tongue, followed by dorsum, lateral borders of tongue, anterior portion of hard palate, and labial mucosa.[3] More than 2/3rds of individuals also experience taste disturbances, most commonly bitter, metallic or both.[3][11] There have been several studies that have shown clear alterations in the quality and quantity of saliva in BMS affected individual.[3]

Many studies have shown that patient with BMS have nonspecific health complaints that includes headaches, TMJ pain, dizziness, musculoskeletal disorders, irritable bowel syndrome, dermatological disorders.[12]

ETIOLOGY

The exact cause of burning mouth syndrome is unknown, due to its complex clinical behaviour. The etiology is presumed to be multifactorial involving the interaction between neurophysiological mechanisms and local, systemic and psychological factors like stress,anxiety and depression.[13] Salivary gland dysfunction plays an important role in BMS.[7]Burning mouth syndrome is poorly understood.

Some of the possible theories of burning moth syndromes are

1. Abnormal interaction between the sensory functions of facial and trigeminal nerves.[14] According to this theory, certain individuals labeled as supertasters (mainly females) due to the high density of fungiform papilla present on the anterior aspect of tongue, are at risk of developing burning pain.[15]
2. Disturbances in the autonomic innervation and oral blood flow.[16]
3. Chronic anxiety or stress results in the alteration of gonadal, adrenal and neuroactive steroid levels in skin and oral mucosa.[17]

DIAGNOSIS

The following steps should be performed before arriving the diagnosis of BMS

- Take a comprehensive history to learn more about the sensation of pain
- Thorough clinical examination of the oral mucosa to rule out systemic causes
- Information on previous psychological well-being
- Measurements of salivary flow rates and taste function
- Patch test for allergic individuals
- Gastric reflux studies
- Hematological test to rule out nutritional, hormonal, autoimmune conditions.[13]

TREATMENT

Burning mouth syndrome is a challenging condition in terms of both diagnosis and management. These challenges lead to frustration for patients and difficulties for dental practitioners.

The investigator should have a detailed review of patient's personal,familial,medical,dental histories and a careful interpretation of data obtained from various physical and laboratory investigations.A thorough clinical examination of the oral mucosa is crucial in these patients. Details regarding the quality, onset, persistence, intensity, occurrence, duration, relieving factors, evolution involved in pain symptoms are essential. This information will give a vital clue in differentiating the BMS from other disorders. Because BMS is a multifactorial disease, none of a single drug or treatment procedure can result in complete correction of all symptoms.[3]

In general 3 approaches can be considered for treatment of burning mouth syndrome namely behavioural therapy, systemic medication,and topical medications.

BEHAVIOURAL THERAPY

Cognitive behavior therapy has been beneficiary in some individuals.[18]Successful treatment of BMS patients with combined psychotherapy and psychopharmacotherapy has also been reported.[19]

SYSTEMIC MEDICATION

There have been numerous studies made that suggests the use of systemic medication for the treatment of burning moth syndrome. The use of tricyclic antidepressants such as amitriptyline, desipramine, imipramine, clomipramine and nortriptyline are useful in treating BMS.[3]

Alpha-lipoic acid (ALA) at a dose of 600 mg/day, either alone or in combination for 2 months, acts as an antioxidant and a powerful neuroprotective agent that prevents nerve damage by free radicals,thereby significantly reduces the symptoms in patients with idiopathic dysgeusia.[3][20]

Systemic capsaicin (0.25% capsules, 3 times a day, for 1 month) proves to be effective in reducing pain intensity.[3]

Hormone replacement therapy (conjugated estrogens like premarin, 0.625 mg/day for 21 days and medroxyprogesterone acetate like farlutal, 10 mg/day from day 12 through day 21, for three consecutive cycles) can relieve oral burning symptoms and improved cytologic features, especially in peri- and post-menopausal women.[21][3]

TOPICAL MEDICATION

Topical application of 0.5 ml Aloe vera gel at 70%, 3 times a day combined with tongue protector is found to be effective for reducing the burning and pain sensation of tongue.[22]

Topical application of capsaicin (0.025% cream) has been used in BMS as a desensitizing agent. Some other gets relieved from pain by using mouth rinse made of Tabasco sauce with water. The most commonly used local anesthetic agent, lidocaine was tried by few and they have not been shown as an effective treatment due to their short duration of analgesic action.[3]

CONCLUSION

Burning mouth syndrome (BMS) is a condition that presents as a burning sensation in the absence of any obvious findings in the mouth.BMS affects around 2% of the population with women being up to seven times more likely to be diagnosed than men. The exact cause for burning moth syndrome is not known and it might probably be of multi factorial research. The diagnosis of the syndrome also,poses a lot of problems for the medical professionals as the symptoms may often be confused with other disorders of the oral cavity. Even though, many efforts have been made to teat the syndrome, none of it proves to be completely satisfactory. A thorough understanding of the etiology and clinical features of the syndrome combined with more advancements in pharmacological interventions would help in better management of the syndrome.

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