



Glossodynia -A Review

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ABSTRACT

Burning mouth syndrome (BMS) is a chronic orofacial pain disorder characterised by a constant, painful, and burning sensation of the oral mucosa in the absence of obvious organic pathology. As a result, BMS is an exclusion diagnosis, and both local and systemic factors must be ruled out. The International Headache Society defines BMS as "an intraoral burning or dysaesthetic sensation that occurs daily for more than 2 hours per day for more than 3 months and has no clinically obvious causative lesions". Patients usually present with burning, stinging, or numbness on the tongue or other areas of oral mucosa. "Glossodynia, glossopyrosis, oral dysesthesia, and stomatodynia are other terms for BMS.

KEY WORDS: Glossodynia, Dysesthesia, Glossopyrosis, Glossalgia, Stomatopyrosis, Stomatodynia

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INTRODUCTION

International Association of Pain and Headache Society defines burning mouth syndrome (BMS) as a "distinctive nosological entity, including all forms of burning sensation of mouth, including complaints described as stinging sensation or pain in association with oral mucosa that appears clinically normal in the absence of local or systemic diseases or alterations."¹Glossodynia is characterized by intraoral pain disorder with burning or altered sensation in the tongue, gingiva, lips, or denture-bearing areas. The burning may be unilateral or bilateral and tends to be relieved by eating or drinking. Other symptoms commonly associated with this disorder include dry mouth, headache, sleep disturbances, and severe postmenopausal symptoms in women.^{2,3}Traditionally, it has been described as a chronic syndrome without specific organic etiology, and those diagnosed with BMS are often emotionally disturbed postmenopausal women. Women are particularly affected by the condition; they are diagnosed with symptoms seven times more frequently than males

EPIDEMIOLOGY

Published prevalence data on BMS are still insufficient and of poor quality when it comes to describing the impact of BMS in the population. The use of more precise BMS diagnosis criteria has reduced the prevalence range from 0.1 percent to 3.7 percent. [4,6,8] BMS primarily affects middle-aged and older women in the peri- and post-menopausal stages[8,9,10], with a 7:1 female to male ratio. [11,12] After the age of 60, the prevalence of BMS increased dramatically. [11,4,5,6,13] Typically, BMS symptoms can last for months or years without remission. According to an earlier study, 50% of BMS patients achieved partial or complete remission with or without treatment, and 20% achieved complete spontaneous remission within 6 to 7 years of onset. 18 In contrast to these findings, subsequent studies found that only 3% to 4% of patients had complete spontaneous remission within 5 to 6 years of the onset of BMS clinical manifestation, and less than 50% improved with treatments. [18,19]

CLINICAL FEATURES

The three cardinal symptoms of BMS are oral burning pain, dysgeusia, and xerostomia. [20]Patients may also report a scalding sensation over the affected areas. This symptom usually affects the front two-thirds of the tongue, but it can also affect the lips, palate, gingiva, buccal mucosa, and oropharynx. [21,22]. The

sensation is also known as numbness, tingling, prickling, or simply being uncomfortable. These symptoms usually manifest bilaterally. The intensity of the pain varies from mild to severe and can change throughout the day. In general, patients wake up with little or no pain. The intensity of the pain gradually increases throughout the day. By the evening, the majority of patients are in excruciating pain. However, the pain usually does not interfere with sleep. A subset of patients has constant symptoms throughout the day, whereas another subset has daily but only intermittent symptoms. 10 As a result, BMS has been divided into three types

TABLE I: TYPES OF BURNING MOUTH SYNDROME (BMS) [21,22,23]

ATTRIBUTES	TYPE 1	TYPE 2	TYPE 3
Prevalence among patients with BMS	35%	55%	10%
Clinical characteristics	<ul style="list-style-type: none"> Persistent pain throughout day Pain typically absent in the morning and worse in the evenings 	<ul style="list-style-type: none"> Daily pain Lasts all day 	<ul style="list-style-type: none"> Intermittent pain Affects sites that are normally affected by BMS (Floor of mouth, throat, buccal, mucosa)
Associated conditions and characteristics	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Anxiety or other psychological comorbidities. Most resistant of the 3 BMS types to treatment 	<ul style="list-style-type: none"> Certain food allergies

ETIOLOGICAL FACTORS IN THE CAUSATION OF BURNING MOUTH SYNDROME [26]

LOCAL FACTORS

- Candidiasis
- Migratory glossitis
- Lichen planus
- Trauma
- Oral cancer
- Denture faults
- Impression surface
- Occlusal surface
- Denture plaque
- Residual monomer
- Sensitivity to dental materials
- Radiation therapy (Xerostomia)
- Periodontal diseases
- Electrogalvanic discharge

SYSTEMIC FACTORS

- Climacteric as postmenopausal hypoestrogenism
- Diabetes
- Sjogren's syndrome (Xerostomia)
- Drug reactions (Xerostomia)
- Deficiency states-Anaemia (iron, vitamin B, folic acid deficiencies)
- Lingual artery atherosclerosis
- Rheumatoid arthritis
- Gastric disturbances such as Hyperacidity, Xerostomia, Hypothyroidism

DIAGNOSIS

Because there are no visible mucosal or organic abnormalities, diagnosing BMS is difficult even for experienced clinicians. It is defined only by symptoms, and the symptomatic triad occurs rarely in one patient at the same time due to overlapping stomatitis. Chronic pain conditions such as traumatic/inflammatory/immune mediated stomatitis or orofacial pain disorders have symptoms that are similar to BMS. First and foremost, it is critical to distinguish between primary and secondary BMS. As a result, a thorough case history and a careful examination are essential for accurate diagnosis. To rule out potential joint disorders, a systematic evaluation of the masticatory system, including clinical assessments of occlusion, dentition, temporomandibular joint status, and masticatory muscles, is

required. Hyposalivation is indicated by a salivary flow rate of less than 0.1 ml/min for unstimulated whole saliva or 0.7 ml/min for stimulated whole saliva. Sialochemistry can be used to evaluate specific qualitative changes in saliva. Hematological tests, blood glucose levels, and estrogen/progesterone concentrations are used to diagnose nutritional deficiencies, diabetes mellitus, and menopausal disorders, respectively. Structured interviews and/or psychometric instruments can reveal the presence of underlying psychological disorders. If clinical or laboratory examination reveals the presence of any of these factors, secondary BMS should be suspected. In the absence of these, a final diagnosis of primary BMS is possible. The diagnostic algorithm for BMS is shown in Table 2. Atypical facial pain, atypical odontalgia, lingual nerve neuropathy, postherpetic neuralgia, secondary trigeminal neuralgia, and idiopathic facial arthromyalgia are the most common conditions that can mimic BMS. [25]

• Pain is experienced deep within mucosa
• Pain is unremitting for at least 4-6 months
• Pain is continuous throughout almost or all the day
• BMS pain is invariably bilateral and often relieved by eating and drinking; in contrast to the pain associated with inflammatory or immunomediated oral lesions may be unilateral and aggravated by food
• Lack of oral mucosal lesions points to diagnosis of BMS
• Microbial analysis of oral mucosal areas where pain is localized may be helpful in excluding possible bacterial or fungal infections.

MANAGEMENT

Burning mouth syndrome is usually multifactorial, and these patients require a systematic approach to account for the various etiologies. Erythema, glossitis, lingual papilla atrophy, sings of tongue biting, Candida infection, lingua plicata, geographic tongue, lichen planus, or xerostomia should all be thoroughly examined. When the underlying causes of the symptoms of a burning mouth are identified, they should be thoroughly investigated and corrected. 4 The diagnosis of BMS is likely in the absence of local or systemic causes, and the patient must be thoroughly reassured that there is no other cause [24]. Patients with BMS frequently believe they have insufficient information about their condition, and verbal information should be supplemented with well-designed written information. The management of this condition is hampered by a scarcity of high-quality treatment trials. [26]

TABLE 3: MEDICAL MANAGEMENT OF BURNING MOUTH SYNDROME

Medications	Example of specific agents	Common dosage range	Prescription
Tricyclic antidepressants	Amitriptyline Nortriptyline	10-150 mg/day	10 mg at bedtime; increase dosage by 10 mg every 4-7 days until oral burning is relieved or side effects occur Benzodiazepines C
Benzodiazepines	Clonazepam	0.25-2 mg/day	0.25 mg at bedtime; increase dosage by 0.25 mg every 4-7 days until oral burning is relieved or side effects occur; as dosage increases, medication is taken as full dose or in three divided doses
	Chlordiazepoxide	10-30 mg/day	5 mg at bedtime; increase dosage by 5mg every 4-7 days until oral burning is relieved or side effects occur; as dosage increases, medication is take in three divided lesions
Anticonvulsants	Gabapentin	300-1600 mg/day	100 mg at bedtime; increase dosage by 100 mg every 4-7 days until oral burning is relieved or side effects occur; as dosage increases, medication is taken in three divided doses
Capsaicin	Hot pepper and water	Variable	Rinse mouth with 1 teaspoon of a 1:2 dilution (or higher) of hotpepper and water; increase strength of capsaicin as tolerated to a maximum 1:1 dilution

Adapted and modified from Grushka et al [26].

Despite the fact that a wide range of drugs, medications, and other treatments have been proposed in BMS, the treatment management of this syndrome is still inadequate, and there is no definitive cure. Many pharmacological agents, either topically or systemically administered, have been proposed to alleviate pain in BMS. Low doses of capsaicin, applied topically three or four times, appear to be quickly effective in relieving pain in BMS subjects.

Although cognitive behaviour therapy has been shown to be beneficial in this condition, it is complicated and clinically intensive. This entails identifying and attempting to change maladaptive thought processing in a positive way. Antidepressants, vitamins, or dietary supplements like alpha lipoic acid, analgesic sprays or mouthwashes like benzydamine hydrochloride, and, in postmenopausal female patients, hormone replacement or topical oestrogen applied to the oral marrow Saliva substitutes may be considered if dry mouth, also known as xerostomia, is prominent symptoms.

CONCLUSION

Burning mouth syndrome is an idiopathic burning discomfort or pain that affects clinically normal people oropharyngeal mucosa in which a medical or dental cause has been ruled out Burning pain, which can be localized only to the tongue and/or lips or can be more widespread and involve the entire oral cavity, is one of the clinical features of BMS. Menopause, diabetes, nutritional deficiencies, mouth disorders, candidiasis, dry mouth, acid reflux, cancer therapy, and psychological problems have all been linked to the disorder. The pathophysiology of the disease is unknown, and no single treatment has been shown to be universally effective. Symptomatic management of the condition with topical and systemic medications aids in the resolution of the situation. Cognitive and behavioral therapies can be used as a supplement.

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