Masterclass in Oral Diseases

Oral Lesions

with

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Burning Mouth Syndrome

Introduction

Burning Mouth Syndrome (BMS) is the condition where a burning sensation is experienced of the oral mucosal surfaces without any identifiable clinical symptoms or lesions.[1] This is a taxing burden on both patient and the attending dental practitioner. This is due to the pain and discomfort associated with this symptom complex and its possible persistence over an extended period. The symptoms entail a burning and/or painful sensation of the mouth and may be associated with a dry mouth and, at times, an altered taste perception. The pain is most often felt on the tongue, but other oral structures may also be involved. It is difficult to diagnose BMS and it can only be confirmed once all possible local and/or underlying systemic conditions have been ruled out. Systemic conditions include iron deficiency anaemia and other nutritional deficiencies, hormonal changes, use of certain chronic medications, acid reflux, local traumatic insults to the oral tissues (with or without the presence of xerostomia) and other, less common, conditions such as Sjögren's syndrome. This may need to be done in conjunction with the patient's general practitioner/physician and where available, an oral medicine specialist.

The attending dental practitioner must ensure that the patient is carefully screened and examined for any oral lesions or conditions. This requires a comprehensive examination of all oral mucosal and dental tissues to identify the presence of any abnormality that may be associated with the patient's symptoms, such as soft tissue trauma or habitual bruxing/clenching. Most patients with BMS will suffer from an unexpressed cancerphobia and a detailed screening of the oral soft tissues is essential to eliminate the presence of oral cancer. This should include a visual inspection of all oral mucosal soft tissues using good illumination and appropriate retraction of the tongue to examine the underside of the tongue and floor of the mouth. This must be followed by a thorough palpation of the lymph nodes draining the oral tissues. The patient should also be referred for a full blood screening and other appropriate tests to rule out other nutritional deficiencies and allergic conditions (see below). If an underlying local or systemic condition is involved, it is referred to as secondary BMS and should improve once the patient receives appropriate treatment.

Clinical presentation

BMS is classified as primary if no underlying causes can be found or secondary if systemic or local underlying causes are found.[2]

BMS onset may be sudden or gradual and although it cannot be tied to any specific cause, it is quite common to find patients blaming the onset after routine dental therapy- often a simple scaling of the teeth. Burning is the most common complaint and tends to be more frequent on the tip, anterior dorsum and lateral sides of tongue and the inside mucosal surfaces of the lips.[3] The burning may however affect any oral surface and often patients will complain not just of burning but tingling, taste alteration and even numbness.

Post-menopausal women are affected more than pre-menopausal women or men. Decades ago BMS was thought to be caused almost exclusively by hormonal changes in post-menopausal women. This is however not accepted anymore. Another school of thought that was prevalent decades ago and which is now not accepted is that BMS was purely psycho-somatic. Clinicians should always explain to the patient that the burning sensation is real, but without any real mucosal abnormalities.

Three clinical variants are well described and accepted, namely[1, 4]:

- No burning present upon waking, with burning sensation starting through morning hours and getting progressively worse through the day and worst at bedtime. Approximately one third will present with this variant.

References

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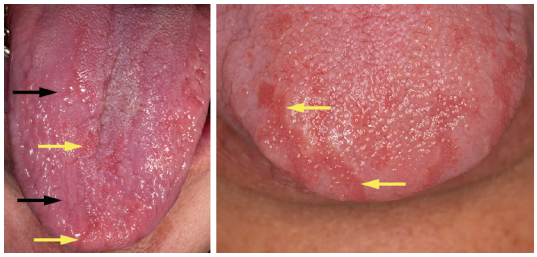

Figure 1: Geographic tongue (also known as Eythema Migrans or Benign migratory glossitis/ stomatitis). The atrophic areas or red areas (black arrows) are surrounded by white borders (yellow arrows). The borders are however often difficult to identify. Patients with these lesions may complain of a burning sensation and sensitivity to spicy foods. This is not to be confused with BMS.

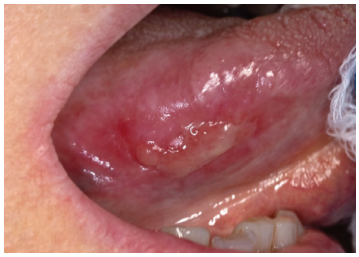

Figure 2: Erosive oral lichen planus with clear ulceration. Any lesion or condition which can be identified clinically, is not BMS and needs to be further identified with histology.

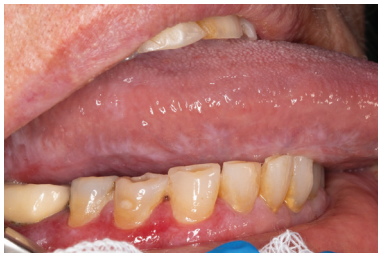

Figure 3: Non-erosive (red lesions) oral lichen planus of gingiva and white-red lesions lateral of tongue. This may also present with burning sensation or be sensitive to spicy foods.

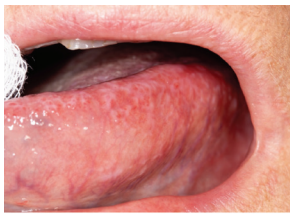

Figure 4: Red and white lesions on the lateral border of tongue presenting with a burning sensation, identified as lichenoid stomatitis on histology. Such changes may be subtle or missed by the inexperienced clinician.

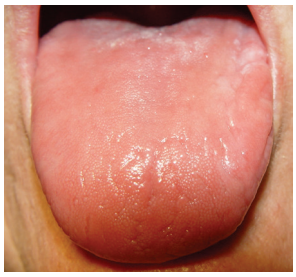

Figure 5: Atrophic tongue changes due to iron deficiency anaemia. This may cause a burning sensation and is known as secondary BMS. One should always assess the salivary flow for xerostomia with atrophic tongue changes such as this as it may further aggravate the burning sensation.

- In the 2nd type, there is a non-stop burning sensation, every hour of every day. These patients usually are the most difficult to treat and may find it difficult to sleep. Close to 60% will present with this variant.
- The 3rd type is uncommon where burning does not occur every day and the burning sensation is intermittent throughout day.

Systemic assessment/Blood tests:

It may be in your interest to refer the patient to her medical GP for the blood tests as it will ensure a team approach to solve this complex clinical condition.

It is recommended to request the following tests[2]:

- Vitamin B 12
- Folate (serum/plasma)
- Iron profile
- Vitamin D
- Thyroid hormone
- Parathyroid hormone

Common clinical conditions that may present with a burning sensation and need to be eliminated before a diagnosis of BMS can be made:

- Geographic tongue (Fig. 1).

This is a very common condition, may present with a burning sensation and may show subtle changes that can easily be missed

- Oral lichen planus (Fig. 2 & 3).

This may present with minor erosions that can present with burning and be difficult to distinguish from normal alveolar mucosa

- Lichenoid stomatitis (Fig. 4).

This may be varied in presentation and symptoms and may also present with burning sensation on almost all oral mucosal surfaces

- Anaemia with atrophic tongue lesions (Figure 5).

This may be due to iron deficiency anaemia or Vit B12/Folic acid deficiency.

Discussion/conclusion

It should be clear that to diagnose BMS one has to be very sure that no oral mucosal abnormalities are present, that the salivary flow is not suppressed by taking medicine with anti-cholinergic properties (mostly anti-depressants, sedatives and sleeping medication) and that no hormonal abnormalities or vitamin and iron deficiency is present.

All mucosal surfaces have to be examined in great detail and the patient should be assured that there really is no oral cancer present anywhere. This cannot be stressed enough.

To modify any medication prescribed by medical specialists or general practitioners, one should gain the trust of these colleagues and be able to explain the situation and the role of the anti-cholinergic effects of such medications with clarity and in detail. In our experience medical colleagues are always willing to help once they understand the distress BMS may cause and the role of salivary flow in preventing, alleviating or aggravating the situation.

BMS patients are usually highly stressed and should be treated with patience, empathy and compassion and a sincere effort must be made to explain to the patient the nature and prognosis of his/her condition. It is also important to allow the patient time to ask questions and raise concerns and a sympathetic sincere approach may help the patient to better understand and accept the diagnosis.

Cognitive behavioural therapy may be of value.[3]

Clinical Tip:

Patients do not understand or easily accept the explanation of pain with no identifiable cause for the pain. A good analogy to use when explaining this concept is that of Phantom Limb pain, which is the perception of pain from a limb that is not there anymore. It does not make the pain any less real for those patients. BMS patients will understand this explanation and will better accept their burning pain if explained in this manner.

BMS patients need our support and should never be seen as an irritation in an otherwise busy clinical practice.