

Expert Opinion

Burning Mouth Syndrome

Case History Submitted by Randolph W. Evans, MD

Expert Opinion by Lisa A. Drage, MD

Burning mouth syndrome (BMS) is a common disorder that is not well known to many neurologists and headache specialists.

CLINICAL HISTORY

A 49-year-old female was referred by her primary care physician with a one-and-a-half-year history of daily constant burning or numbness of the entirety of her tongue and the back of her throat. She also complains that the inside of her mouth is sensitive. She has had a dry mouth for the last year. She had seen an ENT physician, gastroenterologist, and dentist. Artificial saliva has not been helpful. She has tried a variety of pain pills without any help. She tried Mycostatin at the onset without any benefit. She has been treated with triamcinolone dental paste without any benefit. She does not have any dentures.

There is a past medical history of hyperlipidemia on colesevelam (Welchol) and mild depression on bupropion (Wellbutrin).

Oropharyngeal and neurological examinations were normal.

Serum zinc, ferritin, and vitamin B12 levels were normal. Complete blood count and glycosylated hemoglobin was normal. Sjogren antibodies were negative.

Questions.—What is the diagnosis? Would additional testing be of any benefit? What treatment would you recommend?

EXPERT OPINION

BMS specifically refers to mouth pain in a patient who has a normal oral examination. Many oral mu-

cosal diseases cause mouth pain; a few common examples include herpes simplex, lichen planus, aphthous stomatitis, and xerostomia. A thorough oral examination to exclude these and other oral disease must be completed prior to making this diagnosis.

The pain of BMS may be described as a burning, scalded, sore, “hot,” tingling, or numb sensation and occur anywhere in the oral cavity although most often on the anterior two thirds and tip of the tongue. The pain of BMS is often qualitatively compared to a toothache. With a prevalence in the general population of around 3.7%,¹ BMS most commonly affects middle-aged and elderly women and has an average duration of 2 to 3 years.²

Common conditions associated with mouth pain included psychiatric disease (depression, anxiety, obsessive compulsive disorder, somatoform disorder, and cancerphobia), xerostomia (drug-related, connective tissue disease [CTD], age-related), nutritional deficiencies (B12, iron, folate, zinc, B6), and allergic contact stomatitis (specifically to flavorings and food additives). Less common causes of mouth pain include geographic tongue, candidiasis, denture-related pain, oral habits, denture sore mouth, diabetes, thyroid abnormalities, and menopause. Angiotensin-converting enzyme inhibitors are one specific medication that causes mouth pain, but many medications cause xerostomia and may lead to mouth pain. Unusual neurological causes of BMS that have been reported include pain referred from tonsils or teeth, lingual nerve neuropathy, glossopharyngeal neuropathy, and acoustic neuroma.³ Damage to the cranial nerves associated with taste may lead to BMS.⁴ To complicate matters, up to 37% of patients may have more than one factor contributing to the mouth pain that must be identified and treated.²

Address correspondence to Dr. Lisa A. Drage, Department of Dermatology, Mayo Clinic, 200 First St. S.W., Rochester, MN 55905.

The evaluation for BMS should include an oral examination concentrating on signs of erythema, candidiasis, xerostomia, or mucosal abnormalities and a directed history. Once assured there are no oral mucosal diseases that could cause symptoms, the identification and treatment of all correctable causes of mouth pain should be pursued. All medications should be reviewed for their tendency to cause xerostomia. Direct questions regarding depression, anxiety, and cancer fear should be broached. Mouth care routines and exacerbations by food or oral care preparations should be assessed. A history of pain associated with dental work, denture institution or parafunctional behaviors (bruxism, tongue thrusting, clenching) should be documented. Further consultation and evaluation by psychiatry, dentistry, neurology, and ENT should be sought if indicated by initial evaluation.

Laboratory evaluation may include evaluation for nutritional deficiencies (Complete blood count [CBC], iron studies, B12, B6, folate, zinc) as well as fasting glucose, glycosylated hemoglobin, and thyroid studies. If suspected, a culture for candidiasis should be obtained. Patch testing (including oral flavors and preservatives) may be a helpful adjunct. Since BMS is, by definition, associated with a normal oral examination, a biopsy is neither needed nor helpful.

Treatment should be based on the results of this directed history, oral examination, and laboratory evaluation and should be tailored to the suspected causes of mouth pain in the specific patient.^{2,5} Some examples of tailored treatment include avoidance of irritants such as alcohol-based mouth wash and flavored dental product; avoidance of allergens documented on patch testing; discontinuation of angiotensin-converting enzyme (ACE) inhibitors or medications that cause xerostomia, denture evaluation, and adaptation; replacement of nutritional deficiencies, antiyeast agents; and evaluation and treatment of underlying psychiatric disease.

If no cause of mouth pain is identified or the initial treatment protocol is unsuccessful then use of a chronic pain algorithm would be appropriate, similar to that used for the medical management of neuropathic pain conditions. Treatment with low doses of

tricyclic antidepressants, low-dose benzodiazepines or doxepin, topical clonazepam or gabapentin are options that have been successful.^{3,4} A recent placebo-controlled study reported efficacy from sucking a 1 mg clonazepam tablet, holding the saliva near the pain sites in the mouth without swallowing for 3 minutes, and then spitting three times a day.⁶

The patient described here must first receive a thorough oral examination to be correctly termed a BMS patient. Even though multiple physicians have previously examined her, a middle-aged woman with mouth pain may be labeled as BMS when she actually has lichen planus or another primary mucosal disease. This patient has had an appropriate laboratory evaluation although further questioning about food additives and oral care habits may lead me to patch testing to assess for allergic contact stomatitis.

Given this patient's history of depression, further assessment by a psychiatrist to ensure her mood disorder is being optimally managed would be my next step. In addition, since bupropion (Wellbutrin) is associated with significant xerostomia (up to 64% of patients) I would request a trial of an alternative antidepressant with less potential for xerostomia to see if the bupropion is the cause of her burning mouth symptoms. Obviously, if the institution of her antidepressant coincided with her BMS onset, this would heighten my suspicion. Colesevelam (Welchol) is reported to cause sore throat pain and should be discontinued for 4 to 6 weeks or replaced to ensure that this is not the culprit.

If optimal management of her depression on an alternative medication and discontinuation of colesevelam does not improve the situation, low-dose amitriptyline, sucking on clonazepam tablets as above or alternatively gabapentin to help control her symptoms could be instituted.

REFERENCES

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