Incidence of Burning Mouth Syndrome
A Population-Based Study of Olmsted County, Minnesota

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Burning mouth syndrome (BMS) is characterized by a persistent, burning sensation of the mouth in the absence of objective signs explaining these symptoms. Clinical diagnosis requires the exclusion of other etiologies including certain medications, nutrition, infection and local irritation. BMS has been shown to often affect postmenopausal women.¹ Although the etiology is unknown, several mechanisms have been proposed involving hormonal, psychiatric and neuropathic factors.² Physicians must understand the prevalence of BMS to intelligently assess the complaint of oral burning. Published prevalence data are sparse and highly variable, ranging from 1% to 40%.³ There are no population-based studies on incidence of BMS. The aim of this study was to calculate the incidence of BMS in Olmsted County, Minnesota, between 2000 and 2010.

Methods
Using the medical record linkage system of the Rochester Epidemiology Project (REP), we identified new cases of BMS.³ The REP system was screened using the following criteria: 1) diagnosed or potentially diagnosed with BMS before December 31, 2010, 2) being alive between January 1, 2000, and December 31, 2009 and 3) having a final follow-up after January 1, 2000. The International Classification of Diseases (ICD) code for “mouth burning” and the ICD-9 code 528.9 “other and unspecified diseases of the oral soft tissues” were the diagnosis codes used for screening. Inclusion criteria were subjective oral discomfort, a normal oral examination, and a documented BMS diagnosis by a physician. Incidence was estimated using the decennial census data for the county.

Results
One hundred seventy incident cases were identified representing an annual age- and sex-adjusted incidence of 12.6 per 100,000. Age-adjusted incidence was significantly higher in women (19.8 [95% confidence interval, 16.5-23.1]) compared with men (4.3 [95% CI, 2.7-6.0]). Postmenopausal women between 50 and 89 years of age had the highest incidence of disease, with the maximal rate in women ages 70 to 79 years (70.3 per 100,000).

Conclusion
To our knowledge, this is the first reported population-based incidence data for BMS. These data show that BMS is a rare disease found most commonly in postmenopausal women. Previous studies have reported much higher prevalence rates for BMS, but these studies have often used subjective oral burning as the only inclusion criteria or have retained patients with abnormal findings on oral exam. The stringent inclusion criteria used in this study differentiate it from the earlier literature. These data demonstrate that when evaluated by diagnostic criteria, BMS is less common than previously suspected. This knowledge will help physicians in the clinical assessment of patients who present with oral burning.

REFERENCES