Magnetic Stimulation Eased Burning Mouth Pain

BY HEIDI SPLETE
Senior Writer

WASHINGTON — "Burning mouth syndrome," a constellation of symptoms involving burning sensations of the tongue, palate, lips, and buccal mucosa, responds to transcranial magnetic stimulation and drugs that increase levels of γ-aminobutyric acid, Robert I. Henkin, M.D., said at the Clinical Research 2005 meeting.

The neurologic condition, which occurs late in adulthood, is most common among postmenopausal women. The specific exact etiology remains unknown.

Many primary care physicians are unfamiliar with the phenomenon of burning mouth syndrome, and tell patients that they are imagining things, or that they are simply anxious, said Dr. Henkin, director of the Taste and Smell Clinic, in Washington.

The magnetic treatment had no apparent side effects, no associated pain, and relieved the burning feeling in a matter of hours or days.

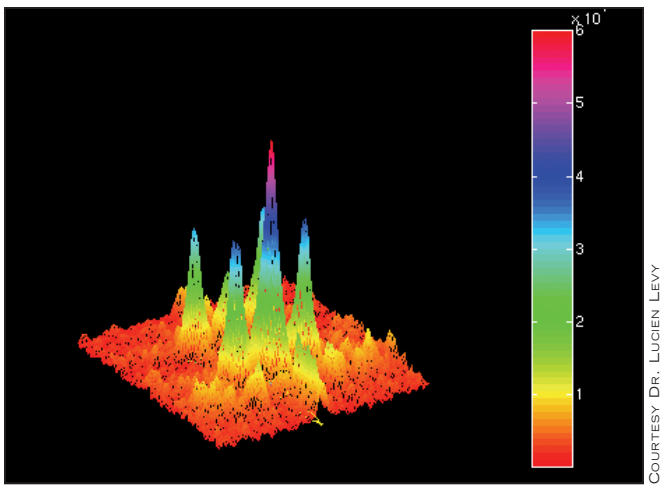
The study included 53 patients with burning mouth syndrome, 42 women and 11 men, aged 20-84 years. Dr. Henkin and radiologist Lucien Levy, M.D., of the George Washington University Medical Center, used magnetic resonance spectroscopy (MRS), specifically, a standard 2-dimensional J-point resolved excitation in the steady state (J-PRESS) sequence, to measure levels of γ-aminobutyric acid (GABA), glutamic acid, *N*-acetylaspartate, choline, and creatine in various regions of patients' brains.

Prior to treatment, patients with burning mouth syndrome had significantly lower levels of GABA compared with healthy volunteer controls who were age- and sex-matched to the patients, Dr. Henkin said at the meeting, which was sponsored by the American Federation for Medical Research.

Treatment with transcranial magnetic stimulation (TCMS) increased the GABA concentrations in the brain and relieved the burning sensations in 31 (68%) of the 46 treated patients. Their response suggests that the etiology of burning mouth syndrome lies in changes in a specific inhibitory neurotransmitter in the central nervous system.

For the TCMS treatment, the patients, acting as their own controls, received TCMS on each shoulder and the neck at levels of 0.2-0.4 Tesla (T), the unit used to measure magnetic field intensity prior to the application of TCMS to the head at the level of 1.1 T. The patients reported no changes in their burning mouth sensations at 0.2-0.4 T, but 31 of the 46 patients who received magnetic stimulation to the head at a level of 1.1 T reported improvement in the burning sensations.

The magnetic treatment had no apparent side effects, no associated pain, and relieved the burning feeling in a matter of hours or days, Dr. Henkin said in an interview. The main drawback is that some patients required more than one or two additional magnetic stimulation treatments to completely alleviate their burning symptoms.



COURTESY DR. LUCIEN LEVY

Dr. Robert I. Henkin and associates used MR spectroscopy to measure levels of the inhibitory neurotransmitter GABA. This image shows an example of pure GABA in a solution.

The results of the study provide measurable evidence that brain GABA levels mirror patients' pain levels, going up or down with brain GABA levels as shown in the images of MR spectroscopy of brain neurotransmitters, which show a 2-dimensional spectrum of the inhibitory neurotransmitter GABA.

Pharmacologic treatment with GABA-ergic drugs may be helpful to patients who don't respond to magnetic stimulation. The dose and length of treatment with GABA-ergic drugs to lessen the pain of burning mouth vary widely among patients, said Dr. Henkin, reporting on his experience.

The results may be complicated by side effects. For a drug such as haloperidol, for example, doses may vary from 0.5 to 1.5 mg daily and patients may need to take them for 4-10 weeks to obtain an effect. In addition, patients often need a maintenance dose, which might range from 0.25 to 0.5 mg. By contrast, most patients treated with TCMS find long-term relief after a few sessions and approximately 20% experience relief within a week of a single treatment, Dr. Henkin said.

The patients in the poster study who did not respond to TCMS have been treated with GABA-ergic drugs, but this treatment is ongoing and the results have yet to be analyzed, Dr. Henkin said.

Drug therapy for burning mouth syndrome requires careful supervision and time, compared with the simple, rapid, and direct improvements associated with TCMS, he noted.

Dentists or primary care physicians are often at a loss as to how to treat patients' "dragon breath," and burning sensations in the oral cavity, since there is no anatomic change in the tissue. When a patient presents with such complaints, consider a neurologic referral and an evaluation for GABA-related treatments.

For more information about the diagnosis and treatment of burning mouth syndrome and other taste and smell disorders, visit www.tasteandsmell.com. ■

NEW & APPROVED

Aczone Gel 5% and Adderall XR

BY DAMIAN McNAMARA, MIAMI BUREAU

Aczone Gel, 5%
(Dapsone gel, QLT Inc.)

The Food and Drug Administration approved Aczone (dapsone) Gel, 5% for the topical treatment of acne vulgaris in patients 12 years older.

▶ **Recommended Dosage:** Gently wash skin and pat it dry. Then apply a pea-sized amount in a thin layer to affected areas twice daily.

▶ **Special Considerations:** Obtain levels of glucose 6-phosphate dehydrogenase (G6PD) before initiating therapy with Aczone gel. Close monitoring of blood hemoglobin levels and reticulocyte counts is warranted for patients with G6PD deficiency or a history of anemia.

Oiliness/peeling, dryness, and erythema were the most common adverse events reported in controlled studies.

▶ **Comment:** Efficacy was based on two clinical studies that compared Aczone Gel, 5% and vehicle in a total of 3,000 patients 12 years and older. After 12 weeks, there was a statistically significant decrease in the number of acne lesions and improvements on the Global Acne Assessment Score with treatment versus vehicle alone. At baseline, all participants had 20-50 inflammatory lesions and 20-100 noninflammatory acne lesions.

"This approval is important in that it gives us a new medication to treat acne. This is the first time we will have topical dapsone, and it's another option in our armamentarium," said Jonette E. Keri, M.D., of the University of Miami.

"Although there are numerous treatment options for acne, a novel one is always welcome," said Helen T. Shin, M.D., chief of pediatric dermatology at the Joseph M. Sanzari Children's Hospital, Hackensack (N.J.) University Medical Center. "We are finding that there is an increasing incidence of resistance to topical as well as systemic antibiotics currently used to treat acne."

"It's going to be a good medicine, but not a cure-all. Acne is multifactorial," Dr. Keri said. A combination of a retinoid, benzoyl peroxide, and a topical antibiotic is her first choice for treatment of acne vulgaris. She recommends starting out slowly with Aczone to monitor response.

Dr. Shin cautioned, "If topical dapsone is being used with other medications, it should not be used at the same time, since there are no data on its interaction with other acne medications. I would recommend keeping the treatment regimen as simple as possible to enhance compliance."

"I would check G6PD enzymes in someone I am concerned about. It is usually more common in black men," Dr. Keri said.

Neither Dr. Keri nor Dr. Shin has a conflict of interest regarding Aczone Gel or QLT Inc.

Adderall XR
(Mixed salts of single amphetamine product, Shire Pharmaceuticals Group PLC)

The FDA approved an adolescent indication for Adderall XR, a once-daily treatment for attention deficit hyperactivity disorder, in patients 13-17 years.

▶ **Recommended Dosage:** Begin adolescents 13-17 years with 10-mg/day Adderall XR. Dose may be increased to 20 mg/day after 1 week if symptoms of ADHD are not adequately controlled.

▶ **Special Considerations:** Loss of appetite, insomnia, abdominal pain, and weight loss were the most commonly reported adverse events in a clinical trial of 233 adolescents treated with Adderall XR. Eight participants in this study withdrew because of these side effects.

▶ **Comment:** Approval was based on a randomized, double-blind clinical trial of 327 adolescents 13-17 years old. All met DSM-IV-TR criteria for ADHD.

Efficacy was defined by ADHD-RS-IV total scores, and the study showed treatment was significantly more effective than placebo.

"It's always good to have an indication. These days, there is a lot of scrutiny. The FDA approval makes parents feel better," said Stephanie Hamarman, M.D., child and adolescent psychiatrist specializing in ADHD, and chief of psychiatry at Lamm Institute in Brooklyn Heights, N.Y.

Adderall XR "is a good medication. It addresses inattention, hyperactivity, and impulsivity with ADHD," Dr. Hamarman said. "I utilize all the stimulant medications, those based on methylphenidate and those based on amphetamine."

"A stimulant medication … can be wonderful, but I look more for weight loss and insomnia in the amphetamine-based than the methylphenidate-based stimulants," Dr. Hamarman said. "But it's not a reason not to use it."

She has no conflict of interest regarding Adderall XR or its manufacturer, Shire Pharmaceuticals Group.

The FDA approved the agent for children 6-12 years old in 2001, and for adults aged 18 years and older in 2004, with ADHD. ■