

Burning lips syndrome

Contact Dermatitis 2007; 57: 344–346

P. D. Pigatto¹, L. Brambilla¹, G. Guzzi²
and F. Spadari³

¹Institute of Dermatological Sciences,
IRCCS Maggiore Hospital, Mangiagalli and
R. Elena Foundation, University of Milan,

²Italian Association for Metals and
Biocompatibility Research – A.I.R.M.E.B.,
and ³Unit of Oral Pathology and Medicine,
School of Dentistry, University of Milan,
20122 Milan, Italy

Key words: allergy to metals; amalgam;
burning mouth syndrome; gold; lip; nickel.

In this article, we describe a patient who had burning lips syndrome (1) associated with allergy to intraoral metals.

In February 2003, a previously healthy 22-year-old woman presented with burning pain over her upper left lip.

She had been healthy until 11 months earlier when a bruising pain developed on her lips during exposure to subfreezing temperatures during a cold winter.

When she went outside, she felt as if her lips were frosted.

The patient subsequently began a frank lip dysesthesia on the upper left. The burning pain was exacerbated by both cold and heat temperatures, including sunlight exposure.

On examination, lips were normal, with no evidence of lip enlargement, inflammation, or oedema (Fig. 1).

To ascertain whether the exposure to a single mercury filling – left upper first molar – might have given an aller-

gic sensitization to metals, we did patch testing with general and dental series (2, 3). She displayed an extreme allergic reaction to gold sodium thio-sulfate 0.5% (score ++++) and a strong sensitization to nickel sulfate 5% (score ++), both in pet. (Fig. 2).

Her mercury dental amalgam filling appeared clearly corroded. We therefore measured the total mercury released in saliva from amalgam surfaces after chewing gum test. Using atomic absorption spectrometry, the concentration of total mercury in the saliva sample after chewing gum test was $4.1 \pm 0.3 \mu\text{g/l}$ (normal range $<2.7 \mu\text{g/l}$).

Given the presence of tiny amounts of nickel and gold in amalgam metal-matrix alloy (4), we proposed the removal of her unique mercury amalgam filling adjacent to her upper lip.

After we had replaced the dental amalgam with composite resin filling, she recovered from lip dysesthesia within 3 months. The total mercury in saliva after amalgam removal was $0.4 \pm 0.03 \mu\text{g/l}$. At the follow-up dental visit 3 years later, she had had no further recurrence of lip burning pain. Importantly, the symptoms resolved without any medication.

Localized burning lips syndrome represents a rare condition of burning mouth disorders, and it rarely occurs in young adults (1, 5).

According to our burning mouth syndrome (BMS) cohort, 3.48% of patients with BMS (6 of 172) received a diagnosis of burning lips syndrome, with no other buccal mucosa symptoms. The age of these patients ranged from 22 to 73 (female to male ratio 2:1), and of these 6 patients, 2 had upper lip involved and 4 had lower lip involved.

In our patient, in whom the symptoms started after cold exposure, we hypothesized that cold conditions may have triggered the onset of lips dysesthesia (6).

Although it is not known how allergy and exposure to intraoral metals released from dental restorations may affect the small fiber of the trigeminal nerve (7), this case underlies the potential association between adverse events to intraoral metals and burning lips syndrome.

References

1. Lamey P J, Lamb A B. Lip component of burning mouth syndrome. *Oral Surg Oral Med Oral Pathol* 1994; 78: 590–593.



Fig. 1. Upper left lip: no clinically visible lesions.

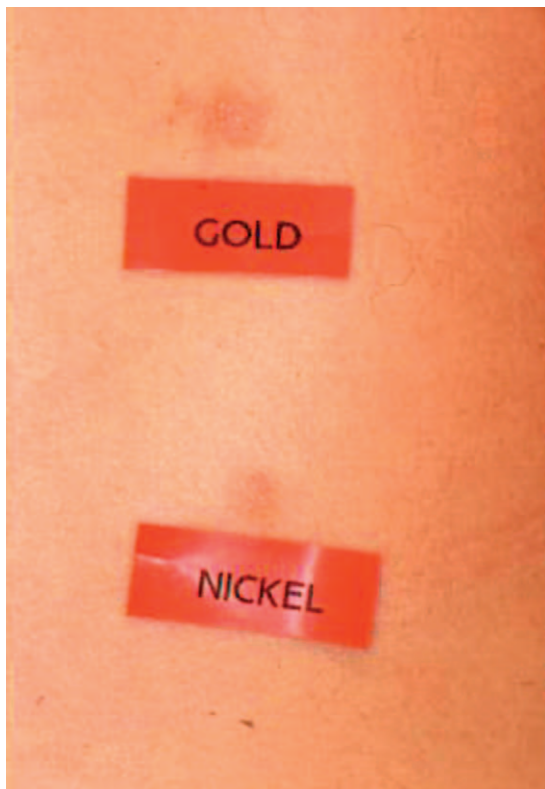


Fig. 2. Positive allergic reactions to gold (++++) and nickel (++).

2. Pigatto P D, Guzzi G, Persichini P, Barbadillo S. Recovery from mercury-induced burning mouth syndrome due to mercury allergy. *Dermatitis* 2004; 15: 75–77.
3. Khamaysi Z, Bergman R, Weltfriend S. Positive patch test reactions to allergens of the dental series and the relation to the clinical presentations. *Contact Dermatitis* 2006; 55: 216–218.
4. Pigatto P D, Guzzi G. Oral lichenoid lesions: more than mercury. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005; 100: 398–400.
5. Brown R S, Flaitz C M, Hays G L, Bottomley W K. Five cases of burning lips syndrome. *Compend Contin Educ Dent* 1996; 17: 927–930.
6. Yarnitsky D, Ochoa J L. Release of cold-induced burning pain by block of cold-specific afferent input. *Brain* 1990; 113: 893–902.
7. Lauria G, Majorana A, Borgna M et al. Trigeminal small-fiber sensory neuropathy causes burning mouth syndrome. *Pain* 2005; 115: 332–337.

Address:

P. D. Pigatto, MD
Institute of Dermatological Sciences
IRCCS Maggiore Hospital
Mangiagalli and R. Elena Foundation
University of Milan
20122 Milan
Italy
Tel: +39 02 550 351 46
Fax: +39 02 700 423 812
e-mail: paolo.pigatto@unimi.it