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## Mercury in BMS, OLP and trigeminal neuralgia

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Oral neuropathy and oral precancerous lesions may be caused by exposure to mercury. We evaluated a cohort of 227 patients with burning mouth syndrome (BMS) associated with adverse reactions to dental metals. Mean ( $\pm$ SD) age was 57.1 $\pm$ 12, 199 were female (87.7%). In 57 patients, mean ( $\pm$ SD) concentrations of mercury in whole-blood was 7.9 $\pm$ 8.4 micrograms Hg per liter, toxic limit: 2 micrograms Hg per liter. In 88 patients, mean ( $\pm$ SD) concentrations in salivary mercury was 24 $\pm$ 45.7 micrograms Hg per liter, toxic limit: 2.7 micrograms Hg per liter. Patch testing was performed in 167 patients, 33.5% had nickel allergy; 11.4% had cobalt allergy; 9.6% had chromium allergy; 14.4% had allergy to gold; 14.4% had palladium allergy; 10.8% had mercurials allergy (in aggregate). As oral pathology, the most common adverse events associated to dental metals were: sialadenitis (3 patients, 1.3%); metallic taste/dysgeusia (3 patients, 1.3%); leukokeratosis (9 patients, 4%); oral lichen planus (OLP) (8 patients, 3.5%); oral allergic syndrome (37 patients, 16.3%). As systemic disease: fibromyalgia (15 patients, 6.6%); hypothyroidism (11 patients, 4.8%) headache (22 patients, 9.7%); urticaria (20 patients, 8.8%); dizziness (20 patients, 8.8%); multiple chemical sensitivity – MCS (29 patients, 12.8%); atypical facial pain (18 patients, 7.9%); trigeminal neuralgia (7 patients, 3.1%) can develop years before and/or years after diagnosis of BMS/OLP. Acute and/or chronic exposure to mercury-containing dental amalgam may inevitably trigger a small fiber neuropathy of the oral cavity. Burning mouth syndrome (BMS) may be also associated with concurrent diseases, such as oral lichen planus and/or trigeminal neuralgia.

### Recent Publications:

1. Costa A, V Branca, P D Pigatto and G Guzzi (2007) BMD, fMRI study and brain hypoactivity. *Pain*. 128:290-291.
2. Guzzi G (2006) Case 21-2006: a man with left-sided facial pain. *N. Engl. J. Med.* 355:2375-2376.
3. Pigatto P D, G Guzzi, P Persichini and S Barbadillo (2004) Recovery from mercury-induced burning mouth syndrome due to mercury allergy. *Dermatitis*. 15(2):75-77.
4. Pigatto P D et al. (2014) Trace elements in saliva and burning mouth syndrome. *Contact Dermatitis* 70:110.
5. Lamey P J et al. (1994) Type 3 burning mouth syndrome: psychological and allergic aspects. *J. Oral. Pathol. Med.* 23(5):216-219.

### Biography

Gianpaolo Guzzi is the President - Founder and Clinical Research Coordinator of the Italian Association for Metals and Biocompatibility Research – A.I.R.M.E.B., a Milan-based not-for-profit organization. His field of expertise is toxicology of mercury.

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