

Allergic contact mucositis caused by metal: a covertly located permanent dental retainer

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We present a clinically relevant contact allergy to nickel in a covertly located permanent orthodontic retainer.

Case Report

A 66-year-old female presented with a 4-year history of a recalcitrant, burning sensation on the tongue, causing

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Fig. 1. Reticulate white plaque on the tip of the tongue consistent with lichenoid mucositis.



Fig. 2. Covertly located metal retainer bonded to the lingual surface of the lower incisors.

weight loss of 6.8 kg secondary to significant pain while eating. She denied having dental implants or prostheses, and dental fillings had been in place for years preceding her symptoms. She did confirm a history of costume jewellery dermatitis.

Intraoral examination showed an ill-defined reticulate white plaque on the tip of the tongue (Fig. 1) plus a metal permanent dental retainer bonded to the lingual surface of the lower incisors (Fig. 2). This permanent retainer had been put in place 4 years previously. A biopsy showed lichenoid mucositis.

The patient was tested with a modified American Contact Dermatitis Society baseline series, a dental series, and

a bakery series. Readings were performed on day (D) 2 and D3. On D3, the results included +++ reactions to nickel sulfate (2.5% pet.) and cobalt chloride (1% pet.), and a ++ reaction to sodium tetrachloropalladate (3% pet.). The patient's dentist confirmed the presence of nickel in the metal retainer, but not the presence of cobalt or palladium. We recommended that the metal retainer be removed.

Within 1 week of the retainer being removed, the patient reported a significant decrease in her oral burning sensation and was able to eat again without pain. Within 1 month, the reticulate white plaque on the tip of the tongue had resolved (Figure S1).

Discussion

The most common allergic reaction to dental orthodontics pertains to nickel, and the most frequent symptom of nickel-allergic contact mucositis is a burning sensation (1). These findings were consistent with our patient's history. The clinical relevance of her cobalt and palladium reactions is uncertain. Many nickel-allergic patients are co-sensitized to cobalt (2) and cross-react with palladium (3). Palladium and nickel both belong to Group VIII of the periodic table (4).

This case highlights clinically relevant contact mucositis caused by nickel in a covertly located permanent dental retainer. Although the patient's dentist had been aware of her permanent retainer and significant tongue burning symptoms for 4 years, and she denied having implants on initial questioning, the dermatological examination finding a 'hidden' metal retainer and the subsequent patch test showing nickel allergy enabled her dermatologists to recommend removal of her dental appliance, which cured her after 4 years of pain.

In conclusion, it is important to enquire about, and search for, covertly located permanent metal dental retainers in those with intraoral mucositis, and test for suspected allergens.

Supporting Information

Additional Supporting Information may be found in the online version of this article:

Figure S1. Resolution of the white reticule plaque on the tip of the tongue 1 month after removal of the permanent metal retainer.

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