

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Oral Medicine and Pathology Quiz – Case 13

A 47-year-old woman was referred to our clinic for evaluation of painful lesions on the left buccal mucosa and floor of mouth that appeared 3 days ago. She reported that the lesions developed a few hours after the fabrication of a temporary acrylic resin bridge from her dentist. She was a non-smoker and her medical history was non-contributory. Clinical examination revealed erythema and multiple irregularly-shaped superficial ulcerations covered by a whitish pseudomembrane on the left buccal mucosa and floor of mouth, in proximity with a methyl-methacrylate temporary restoration of the left mandibular second premolar and first molar (figures 1, 2). On the basis of the clinical diagnosis, the temporary restorations were removed and the patient was advised to apply a topical corticosteroid cream in the area of the lesions. Complete resolution was achieved within a week.

Comment

Burns of oral mucosa are attributed to a variety of causes, such as heat, electricity and toxic chemical substances. Thermal burns are commonly noted on the hard palatal mucosa and are generally associated with hot, sticky foods and liquids, or contact with hot dental instruments or materials such as laser knife and warm impression materials. Chemical burns of the oral mucosa are frequently caused by topical application of chemicals, either by the patient or the dentist. Topical abuse of drugs, such as aspirin, hydrogen peroxide and silver nitrate, or overly fastidious use of alcohol-containing mouthrinses is frequently implicated. Among the various potentially toxic agents used in dentistry, misuse of phosphoric acid-etching solutions or gels and methyl-methacrylate acrylic resins may produce similar effects.

In cases of short-term exposure of oral mucosa to chemical agents capable of inducing tissue damage or necrosis, a localized mild erythema usually occurs. As the concentration and contact time of the offending agent increase, surface coagulative necrosis is more likely to occur, resulting in the formation of a white slough or pseudomembrane. With gentle traction, the surface slough peels from the denuded connective tissue causing pain. On the other hand, thermal lesions are generally erythematous rather than white, as necrosis is less likely to occur compared to chemical burns.

The diagnosis of a thermal or chemical should be made on the basis of the clinical features and history. Differential diagnosis may include various entities presenting as white, red and or ulcerative lesions, such as mechanical trauma, necrotizing ulcerative gingivitis-

stomatitis, candidiasis and vesiculobullous diseases.

Although a biopsy is rarely necessary, microscopic features may include coagulative necrosis through the entire epithelial thickness, in cases of chemical and thermal burns with development of an obvious clinical slough. A fibrinous exudate is also evident, while

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**N.G. Nikitakis,
S. Titsinides,
K. Tosios,
A. Sklavounou-Andrikopoulou**

*Department of Oral Medicine and
Pathology, School of Dentistry, National
and Kapodistrian University of Athens,
Athens, Greece*



Figure 1



Figure 2

the underlying connective tissue is intensely inflamed.

Management of chemical and thermal burns is quite varied. Local symptomatic therapy aiming at keeping the mouth clean, such as sodium bicarbonate mouth rinses or even sterile saline is appropriate. Alcohol-based commercial mouthrinses should be discouraged because of their drying and possibly irritating effect on the oral mucosa. Topical or systemic analgesics are essential in painful cases. Use of gels and ointments with hyaluronic acid or other natural agents that form a mucosal barrier may accelerate the healing process. Topical steroid creams or solutions are also advisable, especially in cases of intense symptomatology. Superficial areas of necrosis in most cases resolve completely without scarring, within 10 to 14 days. In more severe cases with bone exposure, antibiotic coverage and further surgical treatment may be necessary to promote healing, prevent spread of necrosis and diminish extensive scar formation.

References

1. ISENBERG SR, HIER LA, CHAUVIN PJ. Chemical burns of the oral mucosa: Report of a case. *J Can Dent Assoc* 1996, 62:262–264
2. FAN PL, MEYER DM. FDI report on adverse reactions to resin-based materials. *Int Dent J* 2007, 57:9–12
3. HENSTEN-PETTERSEN A, JACOBSEN N. Perceived side effects of biomaterials in prosthetic dentistry. *J Prosth Dent* 1991, 65:138–144

Corresponding author:

N.G. Nikitakis, Department of Oral Pathology and Medicine, School of Dentistry, National and Kapodistrian University of Athens, 2 Thivon street, GR-115 27 Athens, Greece, tel: +30 210 74 61 003, Fax: +30 210 7461220
e-mail: nnikitakis1@yahoo.com