Sodium Bicarbonate mouth rinse: An Uncommon Complication

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Abstract:

Sodium bicarbonate is a natural buffer that maintains a healthy pH in mouth to promote a clean and fresh oral environment. Sodium-bicarbonate rinse is empirically suggested to patients by dentist and people around, and may prove to be harmful. In this short communication, we present chemical burn of oral mucosa because of sodium-bicarbonate rinse after misfit dental impression.

Keywords: Sodium bicarbonate, Chemical burn, Misfit dental impression

A 55 year-old female patient referred to our clinic with white lesions in oral mucosa and pain at the sulcus (Figure 1). Anamnesis of patient revealed that no systemic disease and history of an impression of her upper chin for her prosthetic therapy 3 days ago. This misfit impression resulted in pain from sulcus of upper anterior teeth forcing her to use mouthwash with carbonate for two days. Clinically, a white lesion covering the related sulcus was detected and clinical diagnosis of chemical burn due to sodium bicarbonate mouth rinse was made. Chlorhexidine gluconate rinse was prescribed for two weeks and close follow-up without any surgical intervention was advised. The next two weeks of follow-up revealed healing of white lesions without any signs and symptoms.

Figure 1: Chemical burn due to sodium bicarbonate mouth rinse.

Sodium bicarbonate with its high pH, disinfectant and antiseptic properties, is commonly prescribed for oral rinses to reduce periodontal pathogens by killing off acid-loving bacteria while alkalinizing the mouth. Sodium-bicarbonate rinse is sometimes empirically suggested to patients by their dentist or people around. Application of sodium-bicarbonate rinse on peeled and cut oral mucosa due to unfitted metal impression trays as in this case can cause unexpected and uncomfortable situation. It may produce varying degrees of epithelial necrosis, which clinically appears as a white, sloughing membrane. The clinical appearance of such lesions may be dramatic; however, obtaining a good history helps clinician to solve the problem [1].

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In this case we figured out at that sodium-bicarbonate rinse moved along the cut on the sulcus of patient and caused such necrosis depending on the concentration. When concentration and contact time of the offending agent increase, surface necrosis is more likely to occur, resulting in the formation of a white slough, or membrane.

Management of chemical, thermal, or electrical burns is quite varied. For patients with thermal or chemical burns, it's essential to keep mouth clean, rinse with antibacterial agents and close follow-up of patient is sufficient in most of the cases.

In summary, clinicians should maintain high index of suspicion for chemical burn when a patient on carbonate mouth rinse presents with oral lesions.

References

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