

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Oral Medicine and Pathology Quiz – Case 3

A 54-year-old man was referred to our clinic for evaluation of halitosis, dysgeusia, oral burning sensation and mucosal lesions. The medical history was significant for chronic renal failure, for which the patient, a kidney transplant candidate, was on hemodialysis. He was also receiving atorvastatin for hypercholesterolemia. Clinical examination revealed white lesions of the oral mucosa (buccal mucosa and lateral tongue bilaterally) that could not be detached (figures 1 and 2). A malodour of ammonia was also detected. He was prescribed miconazole oral gel 2% for one week without improvement of his condition. Incisional biopsies of the lesions on the lateral borders of the tongue were taken revealing acanthotic epithelium with hyperplasia of the basal cells, degenerated keratinocytes, and sloughing of the superficial keratin layers.

Comment

Uremic stomatitis is a rare complication of uremia that may occur as a result of advanced renal failure of acute or chronic nature. Affected individuals usually complain of significant oral mucosal discomfort, such as burning sensation of the lips and oral mucosa sometimes interfering with nutrition and fluid intake, altered and unpleasant taste (dysgeusia), and reduced salivary flow. Clinically, adherent white lesions arise on the dorsal, ventral, and lateral parts of the tongue, as well as in the buccal and labial mucosa, floor of mouth, and retro-molar areas. In addition to this hyperkeratotic variant other forms of uremic stomatitis have been described, including erythematous (pseudomembranous), ulcerative, and hemorrhagic types. Gingival and mucosal swelling may also occur. The clinical diagnosis of possible uremic stomatitis is difficult, since the clinical features of the disorder are similar to those of other, more common diseases affecting the oral mucosa. A history of renal failure and a malodour of ammonia are frequently the clues that lead a clinician to suspect uremic stomatitis in the context of compatible clinical signs and symptoms. The histopathologic features of this condition are not pathognomonic and rather non-specific but may help to rule out other diseases. Histologically, the hyperkeratotic form of uremic stomatitis is characterized by minimal underlying inflammatory infiltrate with a hyperplastic epithelium that shows abnormal keratinization and sloughing.

The etiology of uremic stomatitis remains uncertain, although it has been suggested that it may be the consequence of raised levels of ammonia compound. In this regard, uremic stomatitis may also be considered a chemical burning. Ammonia is believed to be formed through the action of bacterial ureases on salivary urea, which can be elevated in affected patients. It has been suggested that stomatitis appears when blood urea levels are higher than 300 mg/mL, although, there have been reports of mucosal

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Figure 1



Figure 2

changes at urea levels of less than 200 mg/mL. Other possible causes of mucosal changes associated with uremia include hemorrhagic diathesis, common in uremia, and decreased viability of the affected tissues allowing bacterial infection. In addition, uremia-induced abnormalities of the immune system may play an etiologic role. Dysgeusia and burning sensation of the lips and tongue in uremic patients may be caused by pain pathway activation. It has been suggested that younger patients usually have more significant impairment in taste modalities than older patients. The role of zinc deficiency, which may arise in renal failure, in the development of oral mucosal changes or pain, is debatable.

Treatment of uremic stomatitis relies on the improvement of renal failure with resolution of the oral manifestations occurring few days or up to 2 to 3 weeks following lowering of blood urea nitrogen (BUN) levels. Hydrogen peroxide mouth rinses can contribute to the elimination of anaerobic bacteria producing ammonia, also neutralizing ammonia and the condition of acidosis. In addition, the use of antiseptic mouthwashes and antimicrobial/antifungal agents may prevent superimposed microbial or fungal infections. Palliative treatment may include the use of topical analgesics. Moreover, increased fluid intake encourages salivation, while scaling of the teeth may be carried out to remove urease-containing calculus deposits.

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Diagnosis: Uremic stomatitis