

# Uraemic stomatitis

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## DESCRIPTION

A 37-year-old man presented with generalised fatigue, dysgeusia and anorexia for 2 months. His medical and family history was non-contributory. He worked as a plumber and smoked five cigarettes per day for 17 years.

On arrival, he was alert and oriented. The body temperature was 36.3°C, with blood pressure of 110/70 mmHg, heart rate of 92 beats/min, respiration of 20 breaths/min and oxygen saturation of 100% on ambient air. He had an ammonia odour to the breath. Both lungs were clear on auscultation. Heart sounds were normal, without gallops or murmurs. He had no oedema. White plaque on the rim of tongue was notable (figure 1).

Laboratory studies showed a serum sodium of 141 mmol/L, potassium of 5.0 mmol/L, chloride of 105 mmol/L, calcium of 4.4 mg/dL and phosphate of 18.0 mg/dL. His blood urea nitrogen (BUN) level and serum creatinine (Cr) were 223.0 and 28.6 mg/dL, respectively. Liver function tests were unremarkable. His albumin level was 4.1 mg/dL. The complete blood counts showed a white blood cell count of 7000 /μL. His haemoglobin level was 68 g/L, haematocrit was 19.8 %, and mean corpuscular volume (MCV) was 87 fL, with a platelet count of 172 000 /μL. Urinalysis showed proteinuria (1.82 g/g Cr) without red blood cells or casts. CT showed bilateral atrophic kidneys, indicating end-stage kidney failure of unknown aetiology. Haemodialysis was started along with alfacalcidol, lanthanum carbonate and darbepoetin alfa. His appetite and taste returned to normal, and the white patches on his tongue disappeared 1 week after renal replacement therapy (figure 2). He underwent a surgery for arteriovenous fistula formation, and haemodialysis was continued three times a week.

Uraemic stomatitis occurs in advanced renal failure with an elevated BUN level higher than 150 mg/dL and is a rare manifestation of uraemia. It resolves with earlier institution of renal replacement therapy.<sup>1</sup> The chemical irritation of the oral mucosa



**Figure 2** After several sessions of haemodialysis, the white patches on his tongue disappeared.

## Learning points

- ▶ Uraemic stomatitis is a rare complication of advanced renal failure.
- ▶ Anorexia and dysgeusia due to pain and discomfort of the tongue are the typical presentations.
- ▶ Uraemic stomatitis promptly improves after treatment of underlying uraemia.

with ammonia compound, which is made from nitrogen hydrolysed by urease in saliva, is presumed to cause uraemic stomatitis. Pain and discomfort of the tongue leading to anorexia and dysgeusia are the typical presentations. The four subtypes of stomatitis are erythemopultaceous, ulcerative, haemorrhagic and hyperkeratotic. Histology is characterised by a hyperplastic epithelium and unusual hyperparakeratinisation. The differential diagnosis includes vitamin deficiencies, lichen planus, oral hairy leukoplakia and chronic hyperplastic candidiasis. Uraemic stomatitis promptly improves after treatment of underlying uraemia.<sup>2</sup>

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**Figure 1** White plaque on the rim of the tongue was notable.

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