


# Moeller-Hunter glossitis

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## DESCRIPTION

A woman in her 80s presented to our clinic with anaemia. Her medical history and medications were unremarkable. She had no history of alcohol consumption. She had a balanced diet. Vital signs were normal limits. Her tongue was highly atrophic and appeared red and smooth (figure 1). No neurological findings were observed on examination. Laboratory tests revealed megaloblastic anaemia (haemoglobin level of 83 g/dL and mean corpuscular volume of 110 fL). We suspected vitamin B<sub>12</sub> deficiency, which was confirmed based on a vitamin B<sub>12</sub> level of <50 pg/mL. Upper gastrointestinal endoscopy revealed *Helicobacter pylori*; therefore, she was diagnosed with vitamin B<sub>12</sub> deficiency secondary to atrophic gastritis caused by *H. pylori*. After successful treatment of *H. pylori* and initiation of both intramuscular injection and oral administration of vitamin B<sub>12</sub>, glossitis and anaemia improved within 1 month (figure 2).

Glossitis in vitamin B<sub>12</sub> deficiency is present in up to 25% cases.<sup>1</sup> It is traditionally described as a diffuse and clinically non-specific atrophy of the lingual papillae affecting >50% of the tongue and is classically known as Hunter glossitis or Moeller-Hunter glossitis,<sup>2</sup> named after the German surgeon Julius Otto Ludwig Moeller (1819–1887) who described the condition in 1851<sup>3</sup> and the Scottish physician William Hunter (1861–1937) who described the condition in 1900.<sup>4</sup> This glossitis has two stages: inflammatory, with bright red plaques,



**Figure 2** After successful treatment of *Helicobacter pylori* and initiation of both intramuscular injection and oral administration of vitamin B<sub>12</sub>, glossitis and anaemia improved within 1 month.

followed by atrophic, characterised by papillae atrophy affecting >50% of the tongue.<sup>2</sup>

The causes of vitamin B<sub>12</sub> deficiency include vegetarianism, gastric lesions such as those occurring in pernicious anaemia and atrophic gastritis or after gastrectomy, small intestinal lesions, pancreatic insufficiency and use of certain drugs.<sup>5</sup> In addition,



**Figure 1** Her tongue was highly atrophic and appeared red and smooth.

## Learning points

- ▶ Glossitis in vitamin B<sub>12</sub> deficiency is present in up to 25% cases. It is traditionally described as a diffuse and clinically non-specific atrophy of the lingual papillae affecting >50% of the tongue and is classically known as Hunter glossitis or Moeller-Hunter glossitis.
- ▶ The causes of vitamin B<sub>12</sub> deficiency include vegetarianism, gastric lesions such as those occurring in pernicious anaemia and atrophic gastritis or after gastrectomy, small intestinal lesions, pancreatic insufficiency and use of certain drugs.
- ▶ In addition, *Helicobacter pylori* infection is associated with vitamin B<sub>12</sub> deficiency, and eradication of *H. pylori* bacterias normalises serum vitamin B<sub>12</sub> levels.



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*H. pylori* infection is associated with vitamin B<sub>12</sub> deficiency, and eradication of *H. pylori* bacterias normalises serum vitamin B<sub>12</sub> levels.<sup>6</sup> Previous study has reported *H. pylori* was detected in 56% of patients with vitamin B<sub>12</sub> deficiency, and eradication of *H. pylori* infection successfully improved anaemia and serum vitamin B<sub>12</sub> levels in 40% of infected patients.<sup>6</sup> The treatment of vitamin B<sub>12</sub> deficiency includes intramuscular vitamin B<sub>12</sub> preparations and high-dose oral vitamin B<sub>12</sub>.<sup>5</sup>

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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