Moeller-Hunter glossitis

Kosuke Ishizuka o, Kohta Katayama, Yoshiyuki Ohira

Department of General Internal Medicine, St Marianna University School of Medicine, Kawasaki, Kanagawa, Japan

Correspondence to Kosuke Ishizuka; e103007c@yokohama-cu.ac.jp

Accepted 17 August 2022

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 B₁₂ deficiency, which was confirmed based on a vitamin B₁, level of <50 pg/mL. Upper gastrointestinal endoscopy revealed Helicobacter pylori; therefore, she was diagnosed with vitamin B₁₂ 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 B₁₂, glossitis and anaemia improved within 1 month (figure 2).

Glossitis in vitamin B_{12} 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, and after the German surgeon Julius Otto Ludwig Moeller (1819–1887) who described the condition in 1851 and the Scottish physician William Hunter (1861–1937) who described the condition in 1900. This glossitis has two stages: inflammatory, with bright red plaques,

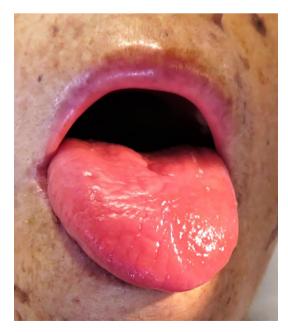


Figure 1 Her tongue was highly atrophic and appeared red and smooth.



Figure 2 After successful treatment of *Helicobacter pylori* and initiation of both intramuscular injection and oral administration of vitamin B₁₂, glossitis and anaemia improved within 1 month.

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

The causes of vitamin B₁₂ 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.⁵ In addition,

Learning points

- ▶ Glossitis in vitamin B₁₂ 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 B₁₂ 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 B₁₂ deficiency, and eradication of *H. pylori* bacterias normalises serum vitamin B₁₂ levels.



© BMJ Publishing Group Limited 2022. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Ishizuka K, Katayama K, Ohira Y. *BMJ* Case Rep 2022;**15**:e251810. doi:10.1136/bcr-2022-251810

Images in...

 $H.\ pylori$ infection is associated with vitamin B_{12} deficiency, and eradication of $H.\ pylori$ bacterias normalises serum vitamin B_{12} levels. Previous study has reported $H.\ pylori$ was detected in 56% of patients with vitamin B_{12} deficiency, and eradication of $H.\ pylori$ infection successfully improved anaemia and serum vitamin B_{12} levels in 40% of infected patients. The treatment of vitamin B_{12} deficiency includes intramuscular vitamin B_{12} preparations and high-dose oral vitamin B_{12} .

Contributors KI contributed to write manuscript, patient care and discussion. KK and YO also contributed to discussion and patient care.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s).

Provenance and peer review Not commissioned; externally peer reviewed.

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 quide treatment choices or public health policy.

ORCID iD

Kosuke Ishizuka http://orcid.org/0000-0003-4313-6592

REFERENCES

- 1 Greenberg MS. Clinical and histologic changes of the oral mucosa in pernicious anemia. Oral Surg Oral Med Oral Pathol 1981;52:38–42.
- 2 Graells J, Ojeda RM, Muniesa C, et al. Glossitis with linear lesions: an early sign of vitamin B12 deficiency. J Am Acad Dermatol 2009;60:498–500.
- 3 Möller JOL. Klinische Bemerkungen über einige weniger bekannte Krankheiten Der Zunge. Dtsch Klin 1851;3:273–5.
- 4 Hunter W. Further observations on pernicious anaemia (seven cases): a chronic infective disease; its relation to infection from the mouth and stomach; suggested serum treatment. *Lancet* 1900;1:221–4.
- 5 Stabler SP. Clinical practice. vitamin B12 deficiency. *N Engl J Med* 2013;368:149–60.
- 6 Kaptan K, Beyan C, Ural AU, et al. Helicobacter pylori--is it a novel causative agent in Vitamin B12 deficiency? Arch Intern Med 2000;160:1349–53.

Copyright 2022 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit https://www.bmj.com/company/products-services/rights-and-licensing/permissions/
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ► Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ► Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

Customer Service

If you have any further queries about your subscription, please contact our customer services team on +44 (0) 207111 1105 or via email at support@bmj.com.

Visit casereports.bmj.com for more articles like this and to become a Fellow