

# Pernicious anemia presenting as glossitis

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**A** 69-year-old Japanese woman presented with a 4-week history of painful tongue and reduced sense of taste. On physical examination, she had a smooth, red tongue without dorsal papillae, suggestive of glossitis (Figure 1A). Results from laboratory tests were consistent with macrocytosis without anemia: mean corpuscular volume 104.9 (normal range 80–97) fL, hemoglobin 121 (normal range 110–165) mmol/L, iron 10.92 (normal range 8.95–26.85)  $\mu$ mol/L, ferritin 72 (normal range 5–157)  $\mu$ g/L and serum vitamin B<sub>12</sub> 77.49 (normal range 147.6–442.8) pmol/L. In addition, an endoscopic biopsy of her gastric mucosa showed atrophic gastritis, and the result from a test for the presence of serum anti-intrinsic antibodies was positive. We diagnosed pernicious anemia.

Pernicious anemia is a macrocytic anemia caused by vitamin B<sub>12</sub> deficiency that results from a lack of intrinsic factor. Lack of intrinsic factor may be caused by atrophic gastritis and damage to the oxyntic mucosa and parietal cells, which normally produce hydrochloric acid and intrinsic factor.<sup>1</sup> Glossitis presents in up to 25% of people with pernicious anemia, initially as bright red plaques that may evolve into atrophy of the lingual papillae.<sup>2</sup> Oral manifestations of pernicious anemia, including glossitis and stomatitis, may occur in the absence of anemia and represent an early clinical sign of vitamin B<sub>12</sub> deficiency.<sup>3</sup> Other causes of glossitis include nutritional deficiencies of vitamin B<sub>12</sub>, folic acid, riboflavin and niacin.<sup>4</sup>

We prescribed intramuscular methylcobalamin for our patient's pernicious anemia, and her painful tongue and reduced sense of taste resolved within days. Her tongue regained its normal appearance within a month (Figure 1B). She remains on maintenance therapy with intramuscular methylcobalamin.

## References

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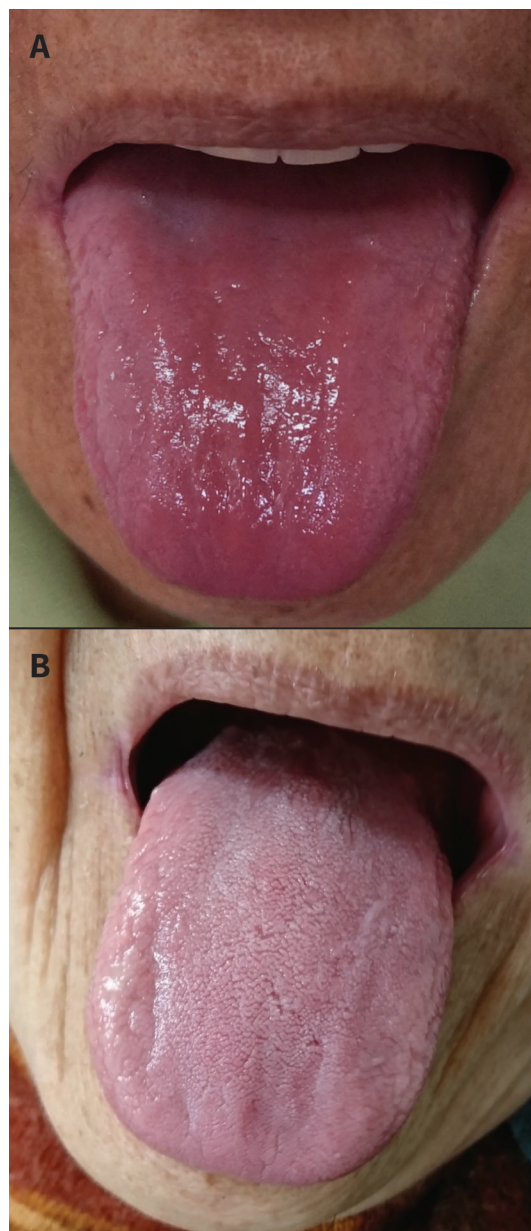
### Competing interests:

This article has been peer reviewed.

The authors have obtained patient consent.

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**Figure 1:** (A) View of the tongue of a 69-year-old woman in Japan with pernicious anemia presenting as glossitis (smooth and red dorsum of the tongue, without lingual papillae). (B) One month after starting treatment with methylcobalamin, her tongue appears normal.