

# Fissured tongue: Tongue with numerous deep grooves

Takeshi Onda, Kamichika Hayashi, Akira Katakura, Masayuki Takano

## CASE REPORT

A 57-year-old woman presented to the hospital with a 7-day history of erythema and burning sensation in the tongue and was anxious about the possibility of malignancy. The patient had noticed painless, deep grooves in her tongue approximately 10 years previously but did not seek treatment. With no significant past medical history, a diagnosis of a fissured tongue was established (Figure 1A and B). While the tongue grooves required no particular intervention, food residue in the grooves may have caused bacterial growth, leading to glossitis. The patient's condition improved within two weeks of using a tongue brush for cleaning and gargling with sodium azulene sulfonate.

## DISCUSSION

Fissured tongue is a morphological abnormality involving multiple grooves on the dorsum of the tongue. It is usually asymptomatic and has no effect on tongue functions, such as vocalization, taste, and swallowing [1]. The incidence of this condition is higher in men than in women and increases with age [1, 2]. A prevalence of 10–20% has been reported in the general population [2]. While fissured tongue can occur as a congenital anomaly, in most cases it is an acquired condition that occurs as a result of chronic inflammation of the tongue, dry mouth, trauma, and vitamin deficiency, among other causes [1]. Hence, knowledge of its clinical presentation is important.

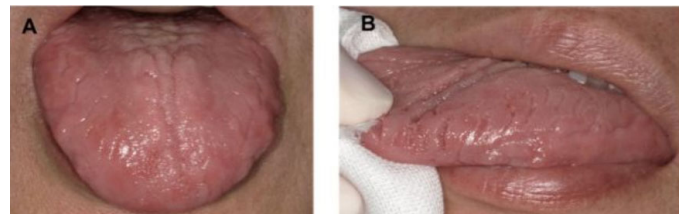


Figure 1: Intraoral findings at the first visit. (A) Multiple grooves and erythema are observed on the dorsal surface of the tongue. (B) Lateral view of the tongue; the width of the groove expands here and erythema of the sidewall of the groove can be observed.

It is also commonly seen in Melkersson–Rosenthal syndrome, Down syndrome, and psoriasis vulgaris [3–5]. However, the reason for the deepening of the grooves remains unclear. Biopsy is not necessary in most cases due to the pathognomonic grooves [2]; however, it may be performed when systemic disease is suspected or when subjective symptoms are intense. If there are no symptoms, no treatment is necessary; this condition is a normal variation of the anatomy [6]. When the grooves are deep, food residue may stagnate in the groove, causing secondary inflammation and pain or discomfort. In such cases, palliative treatment, such as gargling with an anti-inflammatory product, is recommended [1]. Keeping the oral cavity, including the tongue, clean through good oral hygiene habits is essential.

## CONCLUSION

A fissured tongue is not necessarily a pathological condition; it is often asymptomatic, and generally does not require treatment. If it is accompanied by inflammation, palliative treatment can be considered. If the grooves are deep, plaque can accumulate. Hence, it is necessary to instruct the patient to perform good oral hygiene practices.

**Keywords:** Fissured tongue, Glossitis, Grooves, Plaque

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## REFERENCES

1. Rajeev V, Basheer SA, Elnager M, Karthik AK, Radhakrishnan AS. Cerebriform tongue. *J Pharm Bioallied Sci* 2021;13(Suppl 1):S868–70.
2. Picciani BLS, Teixeira-Souza T, Pessôa TM, et al. Fissured tongue in patients with psoriasis. *J Am Acad Dermatol* 2018;78(2):413–4.
3. Gavioli CF, Florezi GP, Lourenço SV, Nico MM. Clinical profile of Melkersson-Rosenthal syndrome/orofacial granulomatosis: A review of 51 patients. *J Cutan Med Surg* 2021;25(4):390–6.
4. Al-Maweri SA, Tarakji B, Al-Sufyani GA, Al-Shamiri HM, Gazal G. Lip and oral lesions in children with Down syndrome. A controlled study. *J Clin Exp Dent* 2015;7(2):e284–8.
5. Feil ND, Filippi A. Frequency of fissured tongue (lingua plicata) as a function of age. *Swiss Dent J* 2016;126(10):886–97.
6. Reamy BV, Derby R, Bunt CW. Common tongue conditions in primary care. *Am Fam Physician* 2010;81(5):627–34.

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## Author Contributions

Takeshi Onda – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Kamichika Hayashi – Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all

aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Akira Katakura – Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Authors declare no conflict of interest.

## Data Availability

All relevant data are within the paper and its Supporting Information files.

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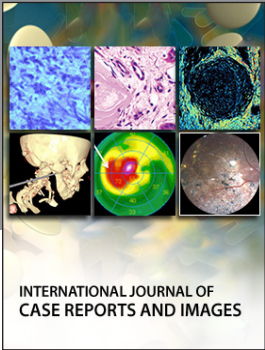
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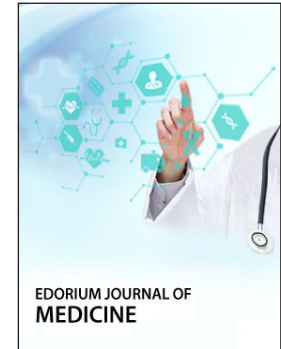
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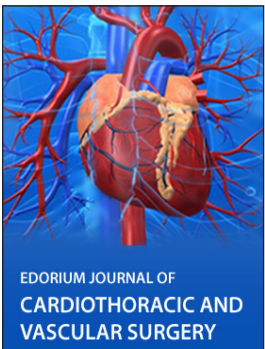
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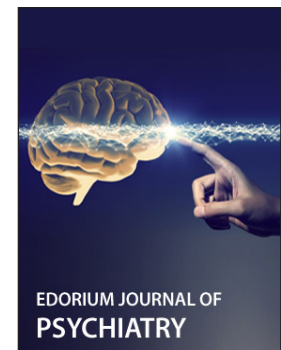
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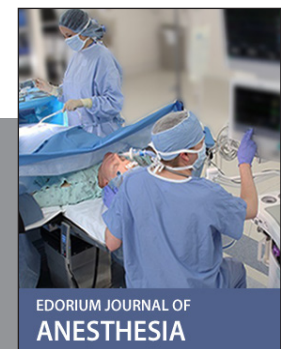
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