

Tongue Lesion with Sensation of Fullness in the Mouth

EDWARD PERRIN, MD, and KEN S. OTA, DO, *Banner Good Samaritan Family Medicine Center, Phoenix, Arizona*

The editors of *AFP* welcome submissions for Photo Quiz. Guidelines for preparing and submitting a Photo Quiz manuscript can be found in the Authors' Guide at <http://www.aafp.org/afp/photoquizinfo>. To be considered for publication, submissions must meet these guidelines. E-mail submissions to afpphoto@aafp.org. Contributing editor for Photo Quiz is John E. Delzell, Jr., MD, MSPH.

A collection of Photo Quizzes published in *AFP* is available at <http://www.aafp.org/afp/photoquiz>.



A 73-year-old man with type 2 diabetes mellitus presented with a sensation of fullness in his mouth that began two months prior. The patient described the sensation as a “funny feeling in the back of my mouth.” He had no other notable symptoms, such as fever, nausea, weight loss, or night sweats, and his vital signs were normal. The patient was a 30 pack-year smoker, occasionally drank

alcohol, and drank coffee daily. He did not use illicit drugs.

Physical examination revealed a brown, hairy-appearing lesion at the midline, covering the posterior two-thirds of his tongue (*see accompanying figure*). The lesion was approximately 3 × 1 cm, was nontender to palpation, and could not be removed with a tongue blade. The patient had moist oral mucosa; however, dental caries and several missing teeth were noted. He did not have overt halitosis.

Question

Based on the patient's history and physical examination, which one of the following is the most likely diagnosis?

- A. Ankyloglossia.
- B. Black hairy tongue.
- C. Geographic tongue.
- D. Hairy leukoplakia.
- E. Malignant melanoma of the tongue.

See the following page for discussion.

Discussion

The answer is B: black hairy tongue. This benign disorder is also referred to as *lingua villosa nigra*. Black hairy tongue is caused by elongation and hyperplasia of the filiform papillae, along with defective desquamation of the tongue.¹⁻³ Although the name implies that the lesion is black, it may be varying colors, such as brown, yellow, or white. A discolored, hairy-appearing patch extends anteriorly from the posterior aspect of the tongue. The condition is usually asymptomatic, but patients may have nausea, a metallic taste, halitosis, and a sensation of fullness in the back of the mouth.³ Black hairy tongue is not painful.

Predisposing factors for black hairy tongue include poor oral hygiene, smoking, and regular coffee consumption. Development of the condition has been reported after the initiation of olanzapine (Zyprexa)⁴ or erythromycin.⁵ Prevention and treatment of black hairy tongue include avoiding risk factors and practicing good oral hygiene, particularly brushing of the posterior tongue surface. Several topical and systemic therapies have been used, including corticosteroids, antifungals, and vitamin preparations. However, given the benign nature of the condition, none is recommended.

Ankyloglossia (tongue-tie) is characterized by a short, tight lingual frenulum in newborn infants. In one study of infants, the incidence rate was 4.8 percent, with a male-to-female ratio of 2.6:1.0.⁶ The condition can be an isolated physical finding or associated with other congenital malformation syndromes. Ankyloglossia can lead to indentation of the dorsal anterior tongue and difficulty latching on during breastfeeding.⁶

Geographic tongue (benign migratory glossitis) is characterized by a smooth, erythematous lesion or lesions with surrounding pale-yellow to white mucosa located centrally on the dorsum of the tongue.^{3,7} In contrast with black hairy tongue, the lesions of geographic tongue are caused by atrophy of the filiform papillae.³ Geographic tongue occurs in patients of all ages and may be associated with psoriasis and other autoimmune disorders or atopy. The condition is usually asymptomatic. Geographic tongue may be chronic or intermittent in nature, or may resolve without recurrence.⁷

Hairy leukoplakia manifests as a white, ridged or hairy lesion on the lateral surface of the tongue⁸ that cannot be wiped away with a tongue blade. It is caused by an Epstein-Barr virus infection of the tongue mucosa and occurs in patients with severe immunodeficiency, most commonly those with human

Summary Table

Condition	Characteristics
Ankyloglossia	Short, tight lingual frenulum in infants; isolated or associated with other congenital malformation syndromes; may lead to indentation of the dorsal anterior tongue and difficulty with breastfeeding
Black hairy tongue	Discolored, hairy-appearing lesion that extends anteriorly from the posterior aspect of the tongue; usually asymptomatic; associated with poor oral hygiene, smoking, and regular coffee consumption
Geographic tongue	Smooth, erythematous lesion or lesions with surrounding pale-yellow to white mucosa on dorsum of tongue; usually asymptomatic; may be associated with psoriasis and other autoimmune disorders or atopy
Hairy leukoplakia	White, ridged or hairy lesion on lateral surface of the tongue; occurs in patients with severe immunodeficiency; caused by Epstein-Barr virus infection
Malignant melanoma of the tongue	Brown to black, painless, macular or nodular lesion; may be ulcerated; very rare

immunodeficiency virus infection.⁹ The incidence of the condition has decreased since the advent of antiretroviral therapy.⁸ Hairy leukoplakia is benign and may resolve spontaneously.

Malignant melanoma of the tongue is rare. Less than 2 percent of oronasal melanomas occur on the tongue.¹⁰ Malignant melanoma of the tongue manifests as a dark, painless, macular or nodular lesion. It may be black or brown and ulcerated. Prognosis is typically poor, with a median five-year survival rate of 25 percent.¹⁰

Address correspondence to Edward Perrin, MD, at edward.perrin@bannerhealth.com. Reprints are not available from the authors.

Author disclosure: Nothing to disclose.

REFERENCES

1. Sarti GM, Haddy RI, Schaffer D, Kihm J. Black hairy tongue. *Am Fam Physician*. 1990;41(6):1751-1755.
2. Vañó-Galván S, Jaén P. Black hairy tongue. *Cleve Clin J Med*. 2008;75(12):847-848.
3. Gonsalves WC, Chi AC, Neville BW. Common oral lesions: Part I. Superficial mucosal lesions. *Am Fam Physician*. 2007;75(4):501-507.
4. Tamam L, Annagur BB. Black hairy tongue associated with olanzapine treatment: a case report. *Mt Sinai J Med*. 2006;73(6):891-894.
5. Pigatto PD, Spadari F, Meroni L, Guzzi G. Black hairy tongue associated with long-term oral erythromycin use. *J Eur Acad Dermatol Venereol*. 2008;22(10):1269-1270.
6. Messner AH, Lalakea ML, Aby J, Macmahon J, Bair E. Ankyloglossia: incidence and associated feeding difficulties. *Arch Otolaryngol Head Neck Surg*. 2000;126(1):36-39.
7. Assimakopoulos D, Patrikakos G, Fotika C, Elisaf M. Benign migratory glossitis or geographic tongue. *Am J Med*. 2002;113(9):751-755.
8. Reznik DA. Oral manifestations of HIV disease. *Top HIV Med*. 2005;13(5):143-148.
9. Greenspan D, Greenspan JS. Significance of oral hairy leukoplakia. *Oral Surg Oral Med Oral Pathol*. 1992;73(2):151-154.
10. Chiu NT, Weinstock MA. Melanoma of oronasal mucosa. *Arch Otolaryngol Head Neck Surg*. 1996;122(9):985-988. ■