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BLACK HAIRY TONGUE – TWO CASE REPORTS OF A RARE CONDITION	KEY WORDS: Hairy Tongue; Lingua Villosa Nigra; Oral Disease

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ABSTRACT	Background: Hairy tongue (lingua villosa nigra) is a benign, self-limited condition characterized by defective desquamation and elongation of the filiform papillae on the dorsal tongue. Although harmless, its characteristic pigmented and filamentous appearance may cause patient concern and prompt medical evaluation. The condition has a multifactorial etiology, with smoking, poor oral hygiene, xerostomia, and broad-spectrum antibiotic therapy representing the main predisposing factors. Case Presentation: We report two cases of hairy tongue associated with recent antibiotic therapy. The first case involved a 54-year-old man with active smoking, who developed odynophagia, dysgeusia, halitosis, and progressive brown discoloration of the tongue following treatment with cefuroxime and doxycycline. Clinical examination revealed elongated pigmented filiform papillae consistent with black hairy tongue. Management included reinforcement of oral hygiene, tongue brushing, smoking cessation advice, and topical nystatin, resulting in complete resolution within eight weeks. The second case involved a 64-year-old woman who developed brownish discoloration of the dorsal tongue and dysgeusia after <i>Helicobacter pylori</i> eradication therapy with amoxicillin, clarithromycin, and high-dose pantoprazole. Conservative management with improved oral and tongue hygiene led to progressive clinical improvement without the need for additional treatment. Conclusion: These cases highlight the role of broad-spectrum antibiotics as important precipitating factors for hairy tongue, particularly in the presence of additional predisposing conditions such as smoking. Recognition of the characteristic clinical features allows prompt diagnosis, avoids unnecessary investigations, and supports effective conservative management based on elimination of risk factors and reinforcement of oral hygiene practices.

INTRODUCTION Hairy tongue, also known as <i>lingua villosa nigra</i> or black hairy tongue, is a benign alteration of the lingual mucosa characterized by elongation and excessive keratinization of the filiform papillae on the dorsal surface of the tongue (1–3). Clinically, this phenomenon presents as a filamentous and pigmented appearance, often with a brownish or black discoloration attributed to the accumulation of debris, exogenous pigments, and chromogenic microorganisms (2,5). Although clinically harmless, its appearance may cause cosmetic and psychological concern, prompting patients to seek medical evaluation (1,4). Reported prevalence varies widely, ranging between 0.5% and 11%, and the condition is more common in middle-aged and older adults, with a predominance in males (4,6). Its etiopathogenesis is multifactorial and involves both local and systemic factors that interfere with the physiological desquamation of the filiform papillae. Major risk factors include smoking, regular consumption of coffee, tea, and pigmented beverages, poor oral hygiene, xerostomia, prolonged use of antibiotics or corticosteroids, and immunosuppressive conditions (1–4,7). Recent reports have also linked its onset to immunomodulatory agents, suggesting a pharmacological component in its pathogenesis (7). Diagnosis is primarily clinical, based on direct observation of a filamentous, pigmented dorsal tongue surface. Despite its striking appearance, the condition is benign and self-limited,	resolving after removal of predisposing factors and implementation of strict oral hygiene measures (3,4). Case Report We present the case of a 54-year-old Caucasian man with a history of compensated alcoholic cirrhosis, alcohol-related polyneuropathy, and hypersplenism. He was abstinent from alcohol and was being treated with alprazolam 0.5 mg/day. He continued to smoke, with an estimated 20 pack-year history. He sought medical care due to mild odynophagia, altered taste, and progressive darkening of the tongue, which began about a week after completing a course of cefuroxime and doxycycline prescribed for a urinary tract infection. Physical examination revealed marked halitosis and an erythematous oropharynx without exudates or tonsillar hypertrophy. The tongue displayed elongated, pigmented filiform lesions with a brownish coloration, predominantly affecting the middle and posterior thirds of the dorsal surface—findings consistent with hairy tongue. No additional oral mucosal changes were observed. A diagnosis of black hairy tongue (<i>lingua villosa nigra</i>) was established, attributed to recent broad-spectrum antibiotic use and active smoking. The patient was advised to stop smoking and reinforce oral hygiene, including mechanical brushing of the tongue after meals. Topical antifungal therapy with oral nystatin
www.worldwidejournals.com	79

suspension was also initiated. At follow-up two weeks later, there was significant improvement in both coloration and surface texture of the tongue, along with resolution of halitosis. After eight weeks, complete clinical resolution was confirmed, with no recurrence or complications.



Fig 1. Lingua Villosa Nigra

We also present the case of a 64-year-old Caucasian woman with a history of hypothyroidism, dyslipidemia, and chronic gastritis, treated with levothyroxine 0.1 mg, atorvastatin 40 mg, and pantoprazole 40 mg. She reported no active or passive smoking or alcohol use. She sought medical evaluation due to the tongue developing a brownish discoloration and altered taste following treatment for *Helicobacter pylori* eradication with amoxicillin, clarithromycin, and an increased dose of pantoprazole (from once to twice daily).

On examination, the oropharynx appeared normal, with no exudates or tonsillar hypertrophy. The tongue displayed small, pigmented, brownish filiform lesions mainly in the middle third of the dorsal surface. No other oral mucosal abnormalities were noted. A diagnosis of hairy tongue was made, attributed to recent broad-spectrum antibiotic therapy and proton pump inhibitor use—both recognized risk factors. The patient reported improvement after reinforcing oral and tongue hygiene. A conservative expectant approach was therefore adopted, with continued emphasis on tongue brushing.

DISCUSSION

Hairy tongue results from an imbalance between keratinization and epithelial desquamation of the filiform papillae, leading to their elongation and retention of keratinized material (2,3). Smoking and recent antibiotic use—both present in the first case, the antibiotic use in the second case—are classic contributing factors, as they promote alterations in the oral microbiota and reduce epithelial turnover, creating an environment conducive to bacterial and fungal overgrowth (1,3,4). Broad-spectrum antibiotics can eliminate saprophytic bacterial species, favoring the proliferation of pigmented microorganisms, which explains the brown discoloration observed (4,7). Smoking, on the other hand, acts as a chronic irritant and a source of extrinsic pigmentation, contributing to persistence of the condition.

The differential diagnosis includes pseudomembranous candidiasis, oral melanosis, coated tongue, and drug- or melanin-related pigmentations (4). The absence of pain, ulceration, or exudate—combined with the characteristic filamentous morphology—is key for diagnostic confirmation.

Therapeutic management is predominantly conservative, aiming to remove triggering factors. Mechanical tongue brushing, smoking cessation, and discontinuation of implicated drugs are the most effective measures. In some cases, topical nystatin or mild keratolytic agents may accelerate resolution (1–3,5). The clinical course is generally self-limited with an excellent prognosis, as demonstrated in these cases.

CONCLUSION

Hairy tongue is a benign, reversible, and self-limited condition often associated with behavioral or iatrogenic factors such as smoking and antibiotic therapy. Early clinical recognition prevents unnecessary investigations and enables effective conservative management focused on oral health education and modification of risk behaviors. These cases highlight the importance of a systematic clinical approach and pharmacological vigilance in patients undergoing antibiotic treatment, especially when concomitant predisposing factors are present.

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