

The differential diagnosis for an elderly adult with subacute weakness is broad and commonly includes electrolyte disturbances, deconditioning, and infection. Severe spinal stenosis, which may also have contributed to the clinical manifestations, complicated this case. One case report suggested that NMOSD might be linked to prostate adenocarcinoma.<sup>5</sup> The individual reported herein had a PSA of 6.1, which might have resulted from prostatic hypertrophy or an early malignancy. He had no prostatic symptoms, and given his comorbidities, further prostate-related investigations were not pursued. It is unclear whether his late onset of NMOSD might be related to prostate pathology.

Acute treatment of NMOSD consists of high-dose corticosteroids, with a low threshold for plasma exchanges.<sup>1</sup> The individual reported herein also received IVIG for possible inflammatory demyelinating polyneuropathy given the minimal improvement of his leg weakness. No studies have reported the benefits of IVIG for NMOSD. Immunosuppressant drugs are used for maintenance.<sup>1</sup> Most individuals have residual neurological deficits, so rehabilitation plays an important role in recovery. In the man reported herein, arm strength and pathology on MRI improved with steroids. It is conceivable that spinal stenosis was the primary driver of his persistent leg weakness, although it is difficult to verify this.

In summary, although rare, NMOSD should be included in the appropriate clinical circumstances for elderly adults with progressing extremity weakness. If the NMO-IgG test is positive, treatment with corticosteroids may maximize functional outcomes.

*Kah Poh Loh, MD*

*Division of General Internal Medicine, Department of Medicine, Baystate Medical Center/Tufts University School of Medicine, Springfield, MA*

*Maura J. Brennan, MD*

*Division of Geriatrics, Palliative Care and Post-Acute Medicine, Department of Medicine, Baystate Medical Center/Tufts University School of Medicine, Springfield, MA  
Department of Medicine, Baystate Medical Center/Tufts University School of Medicine, Springfield, MA*

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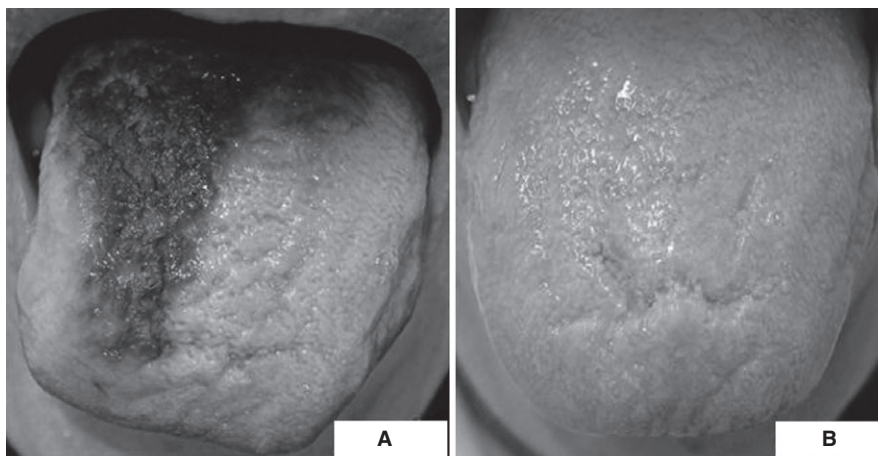
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## BLACK HAIRY TONGUE TREATED WITH ORAL ANTIBIOTICS: A CASE REPORT

*To the Editor:* Black hairy tongue (BHT), also known as *lingua villosa nigra*, is a rare but benign and painless condition caused by defective desquamation and reactive hypertrophy of the filiform papillae of the tongue.<sup>1,2</sup> BHT occurs more frequently in elderly adults than in younger individuals and is rare in children.<sup>1</sup> It is usually asymptomatic, but it may cause nausea, a metallic taste in the mouth, halitosis, and a sensation of fullness in the back of the mouth.<sup>1–3</sup> A number of etiologies for this condition have been proposed, including use of topical or systemic antibiotics, use of psychotropic agents, hyposalivation, trigeminal neuralgia, poor oral hygiene, smoking, regular coffee consumption, and infection.<sup>2,4–6</sup> The optimal treatment for BHT is unclear. We report a 74-year-old woman with BHT who was successfully treated with a short course of oral antibiotics.

## CASE REPORT

A 78-year-old woman presented with loss of appetite and abnormal sensation in both legs. She was noted to have a black coating on the dorsal surface of her tongue consistent with BHT (Figure 1A), which was asymptomatic and had been present for 4 years. She was not edentulous. She used herbal medicines and had been taking a proton pump inhibitor for 3 months, which had improved her appetite but had not changed her BHT. She did not have a history of drinking coffee, smoking cigarettes, or taking antibiotics or other medications that may have caused BHT. She had an upper respiratory tract infection with low-grade fever, sore throat, and a small amount of purulent sputum and was prescribed oral antibiotics (cefditoren pivoxil, 300 mg/d for 5 days) at a private clinic. After 2 days of antibiotic therapy, her tongue discoloration resolved, and after 5 days, the hypertrophy of the filiform papillae resolved (Figure 1B). Her respiratory symptoms resolved after 4 days. No culture of the BHT was performed. She did not brush the surface of her tongue or gargle with iodine, which can be used to treat BHT.



**Figure 1.** (A) Photograph of black hairy tongue (BHT) showing discoloration of the dorsum of the tongue that had been present for 4 years. (B) Resolution of BHT after antibiotic therapy.

## DISCUSSION

It is thought that bacterial or yeast infection causes the discoloration of the dorsal tongue in BHT.<sup>8</sup> Prevention and treatment of BHT includes avoiding risk factors and practicing good oral hygiene, especially brushing of the posterior tongue. Several topical and systemic therapies have been used for this condition, including corticosteroids, antifungals, and vitamin preparations, but none of these treatments is recommended because the condition is benign.

Previous reports suggested that *Bacillus subtilis* or candida infection may cause BHT.<sup>7–9</sup> Based on the results of animal experiments, it has been suggested that *Bacillus subtilis* varietas *niger* infection causes BHT.<sup>8</sup> It has also been reported that *Bacillus subtilis* infection caused BHT.<sup>9</sup> A previously reported case of BHT was successfully treated using a short course of an antifungal medication (fluconazole).<sup>6</sup>

Cefditoren pivoxil is a third-generation oral cephalosporin with a broad spectrum of activity against pathogens, including gram-positive and -negative bacteria, that are resistant to hydrolysis by many common beta-lactamases and may be effective for the treatment of *Bacillus subtilis* infection. This case supports previous reports that bacterial infection can cause BHT, because the short course of oral antibiotics resulted in dramatic improvement, but it is likely that BHT also has several other causes. Although prolonged antibiotic therapy may cause BHT, this case shows that a short course of antibiotics with activity against the causative pathogen may be effective for the treatment of BHT caused by bacterial infection.

Masamitsu Nakajima, MD, PhD

Department of General Internal Medicine, Hiroshima University Hospital, Hiroshima, Japan  
Faculty of Health Sciences, Hiroshima International University, Hiroshima, Japan

Masafumi Mizooka, MD, PhD

Susumu Tazuma, MD, PhD  
Department of General Internal Medicine, Hiroshima University Hospital, Hiroshima, Japan

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## PRIMARY HYPERPARATHYROIDISM IN AN OLDER WOMAN WITH MULTIPLE COMORBIDITIES: A CASE STUDY

*To the Editor:* Primary hyperparathyroidism is a common disorder in older adults that can be challenging to manage. There is a lack of randomized controlled trials comparing treatment options in the oldest old population. An 87-year-old woman with a long history of hyperparathyroidism who refused surgery is described. She did not respond to treatment with bisphosphonates and cinacalcet and finally agreed to surgery after prolonged symptoms and multiple hospitalizations. She underwent parathyroidectomy with a complicated postoperative course and eventually recovered well.