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Case report

Linezolid-induced black hairy tongue

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Summary. Black hairy tongue (BHT) is a self-limiting disorder characterized by abnormal hypertrophy and elongation of filiform papillae on the surface of the tongue. The exact mechanism of drug-induced BHT is unknown. Several factors have been implicated and included smoking or chewing tobacco, drinking alcohol, poor oral hygiene and antibiotics such as tetracyclines and penicillins. We report a quite uncommon case of Linezolid-induced BHT in a patient with a long-lasting history of chest wall infection (www.actabiomedica.it)

Key words: black hairy tongue, lingua villosa nigra, linezolid

Introduction

Black hairy tongue (BHT), also called "lingua villosa nigra", is a benign condition characterized by elongation and hyperplasia of the filiform papillae into "hair-like" prolongations and the appearance of a brown or black discoloration of the dorsal part of the tongue (1). BHT is induced by imperfect desquamation of the dorsal surface of the tongue (2). This imperfect desquamation precludes regular debridement resulting in uncontrolled growth and thickening of the filiform papillae that accumulate debris, bacteria, fungi or other foreign substances which contribute to the discoloration. The specific way of drug-induced BHT is unknown. Different components have been thought to cause and/or predispose BHT; those components consisted of smoking or chewing tobacco, drinking alcohol, scanty oral hygiene, smoking street drugs (crack, for instance), using peroxidecontaining mouthwash, radiation therapy, using drugs that provoke xerostomia (anticholinergics, for instance), and antibiotics such as tetracyclines and penicillins (1,2). Linezolid-induced BHT is an uncommon, benign, self-limiting disorder that has been rarely previously reported (3-8). We hereby report a quite uncommon case of Linezolid-induced BHT in a patient with a long-lasting history of chest wall infection.

Clinical case

A 80 year-old non-smoking man was admitted for a long history of chest wall infection. As a result of right chronic pleural effusion, he underwent CT-guided trans-thoracic pleural biopsy with no sign of tumour. Three months later, he developed a chest wall bulge at the level of previous punctures. A spontaneous drainage of purulent fluid occurred. Microbiological examinations revealed the presence of *Staphylococcus Haemolyticus* and *Enterococcus Faecalis*. According to the antibiogram, a dual oral antibiotic therapy was started and daily dressings were performed for 2 months with no benefit. Therefore a surgical resection of the fistulous tract was performed: during the operation, a meticulous toilette and debridement of the infected area was obtained. Soon after the operation, a further infection occurred. Daily dressings were resumed for 3 months. Since further local microbiological examinations showed the persistence of both bacteria, an antibiotic therapy with linezolid 600 mgx2/die

was started. Two weeks later, the patient complained of swelling and discoloration of the tongue. At clinical examination, a black discoloration of the tongue with elongated filiform papillae was confirmed (Fig. 1). Linezolid was discontinued and his tongue return to normal within two weeks (Fig. 2).

No further antibiotic therapy was proposed. Daily dressings were continued for a few weeks until spontaneous definitive closure of the fistulous tract occurred. Six months later, no sign of recurrence was visible and the patient was asymptomatic.

Discussion

We present a case of Linezolid-induced BHT in a patient with a long-lasting chest wall infection. In this patient, chest wall infection was probably due to repeated diagnostic attempts performed by transthoracic needle biopsies (TTNB). Chest wall infection is extremely rarely reported after CT-guided TTNB (9). Even in case of major chest wall resection, the occurrence of postoperative local infection is seldom encountered (10).

Although very rarely encountered, black hairy tongue, also known as *lingua villosa nigra*, should be always taken into consideration in patients under Linezolid therapy. A very few cases of patients with BHT related to linezolid intake have been reported in the literature (3-8). BHT is a self-limiting disorder characterized by abnormal hypertrophy and elongation of filiform papillae on the surface of the tongue (1-2). At the moment, there are no clear indicators for recognizing this disorder (1). The diagnosis of BHT depends on the macroscopic visualization of discolored, elongated, and hypertrophied filiform papillae of the tongue. Although BHT could be asymptomatic, some patients may refer tickling/swelling or burning of the tongue, nausea, halitosis or a different appearance of the tongue (3-8). Our patient complained of swell-

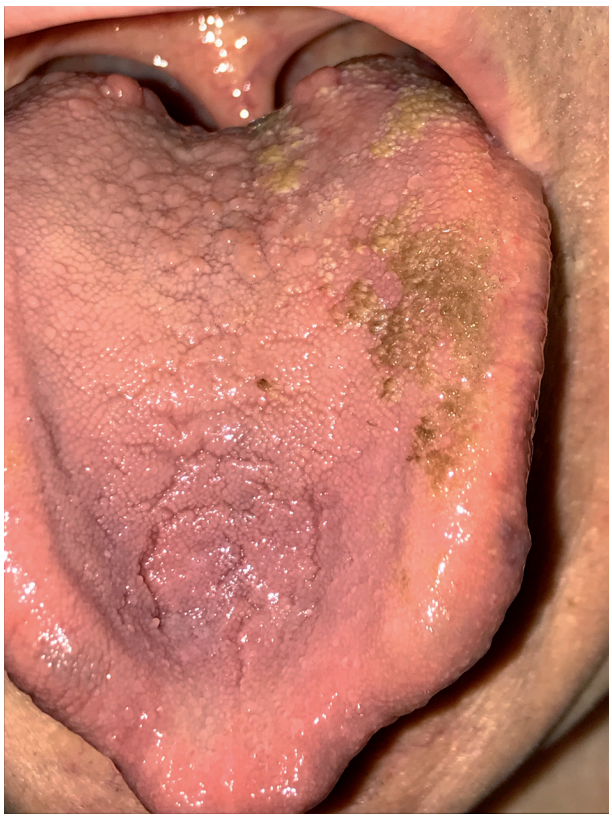

Figure 1. Black discoloration of the tongue with elongated filiform papillae occurred during linezolid therapy

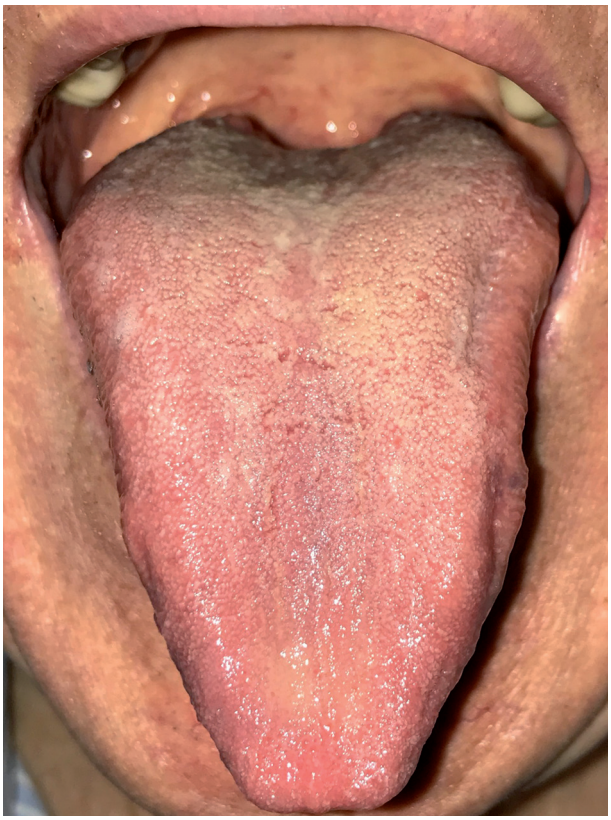

Figure 2. Two weeks after linezolid discontinuation, patient's tongue return to normal

ing of the tongue associated with a black discoloration more visible at the dorsal surface (as clearly visible in Figure 1). The "black" coloration has been historically applied to describe this disorder even though other different discolorations have been infrequently observed (such as brown, yellow and green) (1-2).

BHT might be correlated with the presence of chromogenic organisms (such as Candida Albicans) or the use of some drugs medications (doxycycline and bismuth-containing compounds are more commonly involved). The etiopathogenesis is not clear, but it might be due to proliferation of the filiform papillae of the tongue, which stain black with porphyrin-producing chromogenic bacteria or yeast (11). For this reason, bacterial or mycotic superinfection is a significant point in the management of patients with BHT. In fact, a correct diagnosis and treatment (including the discontinuation of possible predisposing factors) might prevent the development of burning mouth syndrome (11).

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The patients' consent was obtained for publication of the clinical details and images in this article.

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