

**Case Report**

**Black-Tongued Witch – Really?**

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**ABSTRACT**

*Black hairy tongue (BHT) also known as Lingua villosa nigra is an acquired, benign condition which is characterized by abnormally hypertrophied and elongated papilliform papillae on the dorsal surface of the tongue. Apart from black; it may also appear brown, yellow, green or blue. BHT typically causes aesthetic concerns to the patient. Gagging, nausea, dysgeusia, xerostomia, burning mouth syndrome and halitosis can be the very rare presenting complaints in some patients. In India, however, black tongue is believed to associate with witches and unfortunate doom spellers. We are reporting a case of olanzapine induced BHT who became a victim of very popular but irrational myth in Indian society.*

**Key words:** Black hairy tongue (BHT), myth regarding BHT, black tongued witch, Olanzapine induced BHT

Section – Medicine

**CASE REPORT**

A middle-aged female presented in the outdoor patient department of Guru Nanak Dev Hospital with complaint of greenish black discoloration of tongue since 6 months (figure 1,2). She was a diagnosed case of depressive illness taking regular treatment with tablet Olanzapine since last 7-8 years. She was immensely disturbed of the fact that people around her have started to consider her has a ‘witch’ who spells doom from her black tongue. She has sought treatment for her black tongue from various quacks, had undergone “fandas”- a form of treatment done by village “wise men”, took medication from local homeopathic dispensary and chemists. Getting no relief turned her to our tertiary center for remedy. She had moderate pallor, no icterus, no cyanosis, no lymphadenopathy and no clubbing


of nails. Her oral hygiene was poor. Her cardiovascular, respiratory, gastrointestinal and central nervous system examination was normal. The laboratory investigations suggested haemoglobin to be 8 gm%, total leucocyte count as 6700 with differential as 61% neutrophils and 36% lymphocytes. The ESR was 36mm at the end of first hour. The electrocardiograph and chest x-ray were grossly normal. There was no significant abnormality in her renal function as well as liver function tests. Counselling of the patient was done towards the fact that her fear or concern regarding the myth is false, baseless and irrational. She was referred to psychiatry department with the request to review her current antidepressant medication.

**DISCUSSION**

BHT presents as a black, hairy-appearing lesion on the dorsum of the tongue.<sup>[1]</sup>

Various foods, tobacco, and drugs, including antibiotics like penicillin, aureomycin, erythromycin, doxycycline, and neomycin are most often associated with BHT. The local or systemic antibiotic use may significantly alter oral flora, thus potentially predisposing the patient to develop BHT. xerostomie agents, including antipsychotics (olanzapine and chlorpromazine) may too predispose patients to develop BHT. Recent use of new toothpaste or mouthwash have been found to be the culprits in some studies.<sup>[2,3]</sup>

While smoking, black tea consumption, neurological conditions, general debilitation are another important contributing factors.

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BHT is thought to arise from defective desquamation of the dorsal surface of the tongue. This then prevents normal debridement, leading to accumulation of keratinized layers. The resulting hypertrophy and elongation of the filiform papillae appear hair like superficially. Normally less than 1 mm in length, the elongated papillae can reach a length of 12-18 mm and width of 2 mm.<sup>[3,4]</sup> These then secondarily collect fungi, bacteria, and debris.<sup>[5]</sup> This collection can include residue from tobacco, coffee, tea, and other foods as well as porphyrin-producing chromogenic organisms in the oral flora, imparting tongue the characteristic colour.<sup>[6]</sup> The diagnosis of BHT is mostly established by a detailed examination of oral cavity. It shows a predilection for the dorsal tongue, anterior to the circumvallate papillae and sulcus terminalis. Microscopic examination may be used as an adjunct to diagnosis; demonstrating elongated filiform papillae on the dorsal tongue more than 3 mm in length. Cultures may be considered to rule out superimposed bacterial or fungal infections associated with BHT. Tongue biopsy is supportive but not usually required if the lesion appears characteristic for BHT and responds to mechanical debridement. Review of known precipitating factors and recent medication changes is very important in the diagnosis.

Treatment includes discontinuation of potential offending agents and modifying predisposing factors. Oral hygiene should be improved. Gentle debridement with a soft toothbrush or tongue scraper to promote desquamation of the hyperkeratotic pap can be done. Topical application of baking soda or rinsing with diluted hydrogen peroxide solution may help improve desquamation of the keratinized filiform papillae and bleach the color. Lifestyle modifications, consisting aggressive oral hygiene are important and increased dietary consumption of raw fruits and vegetables may help improve this condition by facilitating the roughage on the tongue. Anecdotal use of antimicrobial therapies, topical triamcinolone acetonide, gentian violet, salicylic acid, vitamin B complex, thymol, and topical or oral retinoids (*e.g.*, isotretinoin), as well as keratinolytics (podophyllin), topical 30% urea solution, and trichloroacetic acid have been tried in the management with reasonable success.<sup>[7-9]</sup> Removal of the papillae by electrodesiccation or carbon dioxide laser can be sought in resistant BHT cases.<sup>[10]</sup>

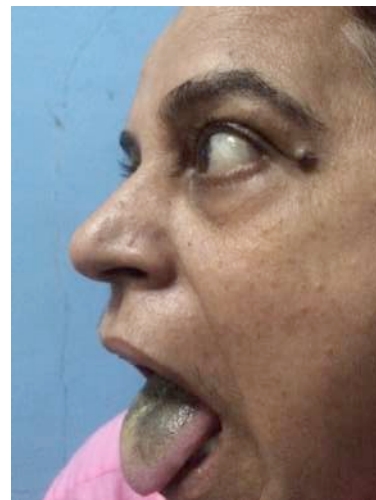
Oral hairy leukoplakia, pigmented fungiform papillae of the tongue, acanthosis nigricans and “pseudo-hairy tongue” are the important differential diagnosis to be kept in mind during the management of BHT.<sup>[11]</sup> “Pseudo-black hairy tongue” appears as a darkly stained tongue in absence of elongated filiform papillae seen in BHT.

Interestingly, however, a very strong myth regarding black tongue is widely prevalent in almost every part of India. It goes like that the person with a black tongue (*kaali zubaan wala*) spells doom. Anything negative or ill coming from the mouth of the black tongued will come true. The patient in the picture was the victim of the above said irrelevant myth. Already a depression patient, her agony was increased further by the attitude of irrational misconception

in the society. Her sex, in the feudal setup, played further to get her quickly labeled as a “witch” and got her out casted.



**Figure 1: Hairy appearance of the tongue due to hypertrophied and elongated filiform papillae**



**Figure 2: Greenish black discoloration of the tongue**

## CONCLUSION

BHT is an acquired and completely benign condition which is not so uncommon. The myth surrounding it being associated with witches or doom spellers is totally irrational. Its etiology and pathophysiology is multifactorial. Visual inspection and thorough medical history establishes correct diagnosis, although microscopic examination, cultures of tongue swabs, and tongue biopsies may be of additional value in challenging cases. Patients with BHT typically present with aesthetic problems and it has an indolent self-limited course that responds well to local treatment. Management includes maintenance of proper oral hygiene, removal of potential causative agents and mechanical debridement. Overall clinical prognosis of BHT is excellent and it has most certainly nothing to do with popular myth of the country.

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