CASE REPORT

Black tongue

Visuvanathan VV, Koh KC

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Authors:

Vaani Valerie Visuvanathan
(Corresponding author)
MBBS MRCP, AdvMDerm
International Medical University,
Jalan Rasah, 70400 Seremban,
Negeri Sembilan Darul Khusus,
Malaysia
E-mail: vaani_valerie@imu.edu.my

Koh Kwee Choy
MBBS MAHE, BSc Hons UKM, MMed
International Medical University,
Negeri Sembilan Darul Khusus,
Malaysia

Case summary

A 44-year-old Indian man complained about dark discoloration of his tongue, which first appeared 3 years ago as small darkened patches on both sides of his tongue that have gradually increased in size. There was no pain, itchiness, altered taste sensation or halitosis. He was started on antiretroviral therapy (ART) – consisting of zidovudine, lamivudine and efavirenz – 3 years ago for HIV infection. However, according to him, the tongue lesions had appeared before initiation of ART. Besides the ART, he was not taking any other medications. He is a heavy smoker, smoking nearly 20 to 30 cigarettes per day from the past 20 years. He consumes tea and coffee moderately. His mother had passed away from oral cancer attributed to betel nut chewing, which gave rise to his anxiety over the possibility of developing oral cancer.

On examination, the tongue was moist with no evidence of inflammation and no hypertrophy of papillae. The lesions on the tongue were well-demarcated hyper-pigmented macules and patches confined mainly to the lateral borders (**Figures 1 and 2**). his oral hygiene was fair. In addition, no hyperpigmentation of the oral mucosa, gingiva, fingernails and palmar creases were noted and the cervical lymph nodes were not enlarged.

Figure 1. Patient's tongue (dorsal view)

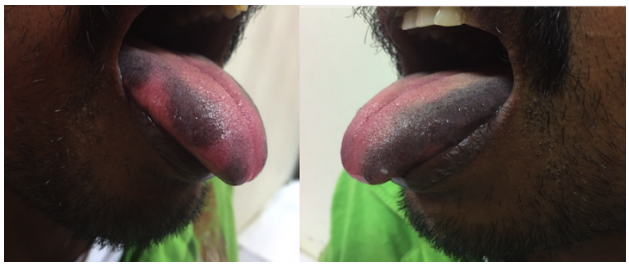

Figure 1. Right and left lateral view of the patient's tongue

Questions

1. What are the possible causes of the tongue hyperpigmentation?
2. What is the most likely diagnosis?
3. What is the most appropriate management?

Answers:

1. Pigmentation of the tongue may be attributed to various physiologic conditions, metabolic disorders, medications and exogenous substances. Increased pigmentation of the tongue is more commonly seen among darkly pigmented individuals and patients with HIV infection.[1] Usage of astringent mouthwash, drinking dark tea and other caffeinated drinks, and heavy smoking of tobacco are other identified risk factors.[2] None of the antiretroviral drugs have been found to be associated with tongue hyperpigmentation, but antibiotics such as linezolid, cephalosporins and tetracyclines; and other drugs such as corticosteroids, fluoxetine, lansoprazole and bismuth have been associated with reversible hyperpigmentation of the tongue.[3] An important endocrine disorder that should not be ignored in patients who present with pigmentation of the tongue and generalised bronze appearance is Addison disease.

2. The most likely diagnosis is physiologic melanin pigmentation of the tongue, an irreversible benign condition. Other causes to be considered are HIV infection and cigarette smoking. Physiologic pigmentation is more commonly seen among darkly pigmented populations.[4] Though the number of melanocytes (melanin-producing cells in the basal layer of epithelium) is the same in all races, the density and size of melanosomes (melanin-containing vesicles formed within cytoplasm of melanocytes)

are increased in darkly pigmented individuals with Fitzpatrick skin phototype IV–VI due to increased melanocyte activity. Physiologic pigmentation of the tongue often develops during the first decades of life but may not be noticed by the patient until a later stage.[4]

3. The patient should be reassured that his condition is benign. He should be advised to reduce or stop smoking and where appropriate, the consumption of tea or coffee and the use of astringent mouthwash should be reduced or avoided. Otherwise, no further treatment would be required.

References

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