

## BLACK TONGUE

By

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Black tongue is a rather uncommon condition. According to Padgett,<sup>1)</sup> since its report by Rayer in 1835, only fifty cases have far been described. This estimate appears to be too low. Marshall<sup>2)</sup> in 1940 showed two cases. Black tongue in the human being is not to be confused with the so-called "black tongue" in dogs. The latter is the manifestation of a deficiency disease in dogs, resembling human pellagra, and is in no way related or similar to black tongue in man.

Clinically, the condition appears as a pigmented hypertrophy of the filiform papillae on the dorsum of the tongue. The color may usually range from a black brown to a blown yellow. This disease is distinguished from ordinary furred tongue by a remarkable hypertrophy of the filiform papillae which gives the dorsum of the tongue a hairy appearance. They can be pulled out without pain or hemorrhage. The hypertrophic process usually begins on the posterior mid-dorsal surface of the tongue and may extend forward until it covers most of the dorsum. Spontaneous recession may take place.

As to etiology there is no complete agreement. Although a black mold has been cultivated by Cianglinski, Hemelke and Saudiak, this finding has not been confirmed by others. A yeast-lick organism called mucor rhizopodiformis has been isolated by Mac Farland, while a streptothrix found by Weidman produced brown pigment in culture. Analysis of most findings indicates that the mold fungi are probably accidental or occasional members of the oral flora. Schech, Brosin and Heidingsfeld believe that the disturbance is simply a pronounced type of hyperkeratosis of the filiform papillae, and the discoloration merely due to an intensification of the normal color of their horny structure as a result of age, drying out and condensation of the superficial epithelial cells. In a few animals such as the cat, giraffe, parrot and certain species of dogs such as the Chinese Chow, a normal bluish-black pigmentation is seen.

Study of all the etiologic possibilities advanced leads to the conclusion that the disturbance consists primarily of a hyperkeratosis of the filiform

produced by irritating substances and a secondary deposit of pigment upon and between the papillae from external sources. The pigments which produce the color originate from external sources such as foods, condiments, stimulants, medicines and from mouth washes containing oxidizing or reducing chemicals or from tannic acid. Pigmentation may result from a chemical reaction between the iron present in the blood and certain sulphur and ammonia compounds resulting from the decomposition of food debris. Iron may react to form iron sulfide or iron tannate. Decomposition of hemoglobin by peroxide of hydrogen may produce pigment.

Histologic study shows that the process is essentially a hyperkeratosis and not an inflammatory reaction.

Subjective symptoms are not common. The tongue may feel dry. There may be salivation or a ticklish sensation on the palate. Occasionally a patient may complain of gagging.

The prognosis is good, relapses occur frequently when treatment is discontinued. As stated before, spontaneous recession may occur, and the condition may disappear completely only to return again.

Treatment in mild cases consists of the application of full strength peroxide of hydrogen followed by warm saline solution. In severe cases, a ten to fifteen per cent solution of salicylic acid in equal parts of glycerine and alcohol acts as an efficient keratolytic agent. As a preliminary measure the papillae may be shaved down with a razor blade. The application of the foregoing keratolytic agent should be followed by peroxide of hydrogen and saline solution. Oxidizing mouth washes and astringents containing tannic acid should be avoided.

*Case.- K. M., female, aged 21.* She stated that for the two months she had noted a black brown furry growth on the dorsum of her tongue. Her chief complaint was gagging. She seemed more concerned with its appearance than with the symptom produced.

Clinical examination showed a hyperkeratosis of the filiform papillae with black brown pigmentation. The papillae reached a height of about three millimeters and gradually tapered down in size toward the middorsum of the tongue. It was possible to pluck out bunches of the papillae without bleeding. Microscopic examination was confirmatory. No bacteriologic studies were made.

Treatment consisted of shaving the papillae down with a safety razor blade and then applying a solution of fifteen per cent salicylic acid in equal parts of alcohol and glycerine. The foregoing solution was rinsed off with hydrogen peroxide by normal saline.

REFERENCES

- 1) PADGETT, E.C.: Surgical Diseases of the Mouth and Jaws. W. B. Saunders and Co., 1938.
- 2) MARSHALL, L. R.: Black Tongue. *Annals of Otolaryngology, Rhinology and Laryngology*, **49**: 961-964, 1940.