Tuberculosis of the Tongue Treated with Streptomycin and PAS*

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Tuberculosis of the tongue may well be considered a rarity since less than 500 cases have been reported. Statistics vary considerably as to its incidence, but it is probable that the complication would be less rare were more attention given to the tongue upon examination of the patient and at the autopsy table.

It is generally agreed that the lingual form of tuberculosis is found less frequently in the colored than in the white race. Indeed, some authors¹,² state that no case has been described in the negro. The lesion, however, occurs more frequently in the male than in the female and no age is exempt, as a case has been described in a child five and one-half years of age and in a man of 80 years, where the tongue had been amputated following the erroneous diagnosis of carcinoma.³

The onset of the lesion is insidious. The patient may complain of difficulty in articulation and in swallowing, and examination reveals some enlargement and thickening of the tongue. Later a focal point may be localized and softening takes place to be succeeded by ulceration. Little, if any pain is felt prior to ulceration, after which, as a rule, excruciating pain is generally continuously present.

Tuberculosis of the tongue must be differentiated from toxic glossitis, syphilis, carcinoma and other neoplasms. While ephthous ulcers usually yield to rather simple remedies, the differentiation of tuberculosis and syphilis may be difficult as the patient may have both a tuberculin and a blood reaction. A thorough physical examination, roentgenograms of the chest and intensive sputum studies should be done for obvious reasons. Since cervical adenopathy may occur in both conditions, little reliance may be placed upon enlargement of the nodes. Biopsy examination, while often informative, is not always conclusive, as the microscopic differentiation is sometimes not possible. As a rule tubercle bacilli are not easily demonstrable by histological study of biopsy material.

Before the use of streptomycin, para-aminosalicylic acid, etc., the prognosis was poor, and not enough cases treated with these drugs have been reported to warrant any definite conclusion as to their value. Judging by analogy, however, we feel justified in anticipating much.

Although the comparative rarity of muscular tissue to infection by the tubercle bacillus, the movements of the tongue and the bactericidal action of the sputum have all, singly or in combination, been cited to account for the rarity of the lingual tuberculosis, nothing has been proved. Infec-

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tion may take place (1) by direct invasion; (2) by an abrasion of the mucous membrane; (3) by extension from tuberculous laryngitis, or lesions of the oral cavity; (4) by the blood vessels; (5) by the lymphatics. Primary infection, while considered possible theoretically, is generally thought to be improbable.

The tuberculous ulcer with its sinous, irregular, reddened edges usually discharges a yellowish pus and unless secondary infections have taken place, presents little or none of the induration so characteristic of malignancy. The floor of the ulcer presents rather pale, watery granulations. A fissure apparently may be more than an insignificant crack in the mucous membrane, but it varies in length and the depth is sometimes surprisingly great; the edges are usually undermined. These may slough off to form a ragged, irregular ulcer.

Extraction of carious teeth and smoothing rough dentures have been reported to have brought about healing of the ulcer. The use of cocaine has been advocated, not because of any curative effect, but, merely to permit the patient to swallow and thereby, perhaps, improve his general condition. Local application of silver nitrate sometimes produces temporary relief but is often followed by a relapse with greater ulceration. Healing of the ulcer by treatment with ultraviolet light treatment has been reported, and tuberculin has been used by several authors with favorable results. Surgery, ranging from partial to complete amputation of the tongue together with removal of the cervical glands, has been performed but none of the treatments has met with general approval.

Because of the rarity of the condition there are but few cases in the literature which have been treated with streptomycin and para-aminosalicylic acid. Shamaskin\textsuperscript{4} reported three cases in 1947, one of which healed without relapse. In 1948 Wolfer, Hirschleifer and Shapira\textsuperscript{5} reported a case which cleared up following the use of streptomycin, and a more recent paper of Schneider also reports improvement of the lesion.\textsuperscript{6}

**Case Report**

S.G., a white male, 37 years of age, was admitted to Mont Alto Sanatorium, December 5, 1950, with loss of weight, a moderate cough, profuse sputum (Gaffsky vi) and sore tongue. His temperature ranged from 99.3 to 100.4 degrees F., pulse from 88 to 100 and respirations 24 per minute. He had 3,970,000 red blood cells and 7,800 white cells of which 75 per cent were polymorphonuclears, and 25 per cent lymphocytes; the hemoglobin was 75 per cent and the sedimentation rate was 27 mm. of a markedly active type in one hour. The Kahn test was negative. The family and past history were without significance. An x-ray film of the chest showed far advanced pulmonary tuberculosis with definite cavitation on the right and suggestive cavitation on the left side.

He gave a history of having been struck on the back of the left hand about 15 months before but although the hand pained from time to time, it began to swell only a few months before admission. An alert surgeon, whom he consulted, made the diagnosis of tuberculous osteomyelitis, and an x-ray film of the chest revealed the pulmonary condition. He also told of having had a fish bone stick in his tongue about a year before admission and that about two months later he noticed a “pimple” at the same place, shortly after which an ulcer developed. Upon admission to Mont Alto Sanatorium there was a draining sinus leading to the fourth
left metacarpal bone and a ragged, irregular ulcer, at least 3 cm. in diameter, was found in the anterior mid-dorsal surface of the tongue (Figure 1). The edges were reddened and undermined and a rather tenacious, mucopurulent discharge covered the area. There was no enlargement of the lymph nodes, and the larynx was not involved. The diagnosis of tuberculosis of the tongue was confirmed by biopsy examination.

He was given streptomycin, one-fourth gram, intramuscularly, twice a day for six weeks, at the end of which time the same dosage of streptomycin, combined with para-aminosalicylic acid solution (gram iii, q.i.d.) was given for 12 weeks. At the time of admission the tongue was sprayed with a 2 per cent solution before each meal to allay the pain, but by the end of the second week of the first course of streptomycin the ulcer had healed sufficiently to enable him to swallow without pain, and the cocain spray was discontinued. He gained 16 pounds and his temperature, pulse and respiration were within normal limits during the last two weeks of his stay at the sanatorium. An x-ray film of the chest, taken on April 24, 1951, showed retrogression of the disease of both lungs. Although, the sputum remained positive the ulcer on the tongue healed completely, leaving a well epithelialized fissure (Figure 2) and the sinus of the hand closed before he left Mont Alto Sanatorium, July 1, 1951, "Against Medical Advice."

Although correctly considered a rare complication of pulmonary tuberculosis, tuberculosis of the tongue is probably not so uncommon as the number of cases reported would indicate. More complete and thorough examination of the tongue and more correct diagnosis and reporting the condition, when found, while not proving it to be a common one, will likely prove it to be less rare than is generally believed. It is anticipated that the bacteriostasis produced by streptomycin and para-aminosalicylic acid, by increasing the individuals resistance, will prove these drugs superior to any used heretofore.
SUMMARY

A case of far advanced bilateral pulmonary tuberculosis, complicated by osteomyelitis of the fourth, left metacarpal bone and ulceration of the tongue has been presented. The improvement of the pulmonary involvement, closure of the sinus of the hand and healing of the ulcer followed the use of streptomycin and PAS. The importance of a correct diagnosis has been shown, and the necessity of chest x-rays whenever any suspicious lesions are present is shown by this case.

RESUMEN
Se presenta un caso de tuberculosis pulmonar bilateral complicado con osteomielitis del cuarto metacarpiano izquierdo y ulceración de la lengua. La mejoría del padecimiento pulmonar, cierre de la fistula en la mano y curación de la úlcera, se observaron después del uso de estreptomicina y PAS. La importancia del diagnóstico correcto se demuestra así como la necesidad de radiografía del torax cuando hay lesiones sospechosas.

RESUME
L'auteur rapporte une observation de tuberculose pulmonaire bilatérale grave compliquée d'une atteinte du quatrième métacarpien gauche, et d'une ulceration de la langue. L'utilisation de streptomycine et de P.A.S. a permis l'amélioration de l'atteinte pulmonaire, la fermeture de la fistule de la localisation osseuse de la main, et la guérison de l'ulcère lingual. Il montre l'importance d'un diagnostic correct, et la nécessité de l'examen radiologique du thorax chaque fois qu'une atteinte pulmonaire est soupçonnée.

REFERENCES