

Unusual association of secondary tonsillar and cerebral tuberculosis

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Abstract

The patient was a 50-year-old alcoholic man with a left palatine tonsillar ulcer. Histopathological and bacteriological studies established the diagnosis of tonsillar tuberculosis with asymptomatic advanced pulmonary tuberculosis and multiple cerebral supra- and infratentorial tuberculomas previously unnoticed.

Key words: Tuberculosis; Tonsil; Brain

Introduction

The incidence of infection with *Mycobacterium tuberculosis* throughout the world started to show a dramatic fall in the 1930s coinciding with the introduction of specific chemotherapeutic agents. As a result clinicians are less familiar with the extrapulmonary manifestations of the disease.

Tuberculous ulceration of the oral or pharyngeal mucosa in adults is usually secondary to pulmonary tuberculosis and the discovery, by biopsy, of tuberculous lesions in the mouth of an adult is usually indicative of underlying pulmonary disease. Tonsillar tuberculosis is a rare localization and the tongue and palate are the commonest sites. Oral tuberculosis occurs in less than one per cent of patients with pulmonary lesions (Haddad *et al.*, 1987; Anim and Dawlatly, 1991).

Cerebral tuberculosis today is rare in industrialized countries. Intracranial tuberculomas are space-occupying masses of granulomatous tissue that result from haematogenous spread from a distant focus of tuberculous infection. These lesions originate as a conglomerate of small tubercles (incipient tuberculoma) that join to form a mature tuberculoma composed of a necrotic caseous centre surrounded by a capsule containing collagenous tissue, epithelioid cells, Langhans' giant cells, and lymphocytes; acid-fast bacilli may be demonstrated in the necrotic centre and throughout the capsule. The incidence of cerebral tuberculomas is less than one per cent of the cases of pulmonary tuberculosis (Martinez *et al.*, 1991).

To the best of our knowledge, this association between secondary tonsillar and cerebral tuberculosis has never been described previously.

Case report

A 50-year-old alcoholic man presented with an eight-week history of odynophagia and dysphagia, hyporexia and loss of weight. Oral examination revealed a left palatine tonsillar ulcer of 1 × 0.7 cm (diameter). Under local anaesthetic the base of the ulceration was biopsied. Histopathological examination showed chronic inflammatory changes characterized by tubercles consisting of epithelioid granulomas with Langhans' giant cells, a lymphocytic infiltrate and the presence of acid-fast bacilli. These features were consistent with a diagnosis of tonsillar tuberculosis.

A chest X-ray was obtained and showed widespread bilateral nodular shadowing i.e. milliary tuberculosis. A Mantoux test was positive. Serology tests for AIDS, syphilis, toxoplasmosis, cytomegalovirus, Epstein-Barr virus were all negative. Bacterioscopy and culture of the sputum were positive.

Neurological examination showed horizontal nystagmus and discrete ataxia. Cerebral and cervical CT scans showed a hyperdense image of 15 mm in diameter in the brain stem, an occipital left periventricular hyperdense image and another image of 3–5 mm in diameter in the left corticoparietal region. MRI of the zone also demonstrated vascular ischaemic accidents in deep Sylvian territory, and corticocerebral atrophy.

We started the treatment with rifampicin, isoniazid, pyrazinamide and streptomycin daily for three months followed by biweekly rifampicin, isoniazid and streptomycin for another nine months. Sputum became negative for acid-fast bacilli after two weeks of treatment. Chest X-ray showed marked clearance. The oral lesion healed completely within six months of treatment and the patient was asymptomatic. A cerebral CT scan as a control showed a total resolution of the cerebral tuberculomas.

Discussion

Oral tuberculous lesions may be either primary or secondary. Primary oral tuberculous lesions generally occur in younger patients, with associated caseation of the dependent lymph nodes. The lesion itself remains painless in the majority of cases. In the primary type, the causative organisms are directly inoculated in to the oral mucosa of a person who has not acquired immunity to the disease. In the secondary type, tuberculosis of the oral cavity is usually coexistent with pulmonary disease (Muthusamy, 1987; Hashimoto and Tanioka, 1989; Verma *et al.*, 1989) and it is primarily a self-inoculation phenomenon via infected sputum or secondary to a haematic and lymphoid dissemination.

The infrequent occurrence of tuberculosis of the oral cavity, pharynx and upper respiratory tract, considering the number of patients with positive sputum is unexplained. It has been postulated that in the oral cavity the cleansing action of saliva and food as well as the thickened oral epithelium may help to prevent tuberculous lesions from forming (Goh and Chang, 1990). In spite of that, the tonsils can be involved in the primary form of

the disease because of lack of host reaction due to chronic alcoholism, HIV infection, and so on.

Differential diagnosis of oral and pharyngeal tuberculosis includes traumatic ulcer, aphthous ulcer, Plaut-Vincent's tonsillitis, haematological disorders, actinomycosis, syphilitic ulcer, midline granuloma, Wegener's granuloma and carcinoma (Haddad *et al.*, 1987). Diagnosis of oral tuberculosis is made by identification of a caseating granuloma in a biopsy specimen. Acid-fast stains and cultures should be obtained from a tissue specimen for confirmation of a diagnosis.

Cerebral tuberculomas usually are isolated lesions. Only in 30 per cent of cases are there multiple tuberculomas. In children lesions are infratentorial and in adults supratentorial. Parietal and frontal lobes are the most affected. In this case report the three cerebral lesions were located in the brain stem, periventricular zone and corticoparietal region. While intracranial tuberculoma is a potentially curable disorder, its diagnosis should be made promptly since any delay in starting antituberculous drugs is associated with morbidity and mortality (Salgado *et al.*, 1989). Unfortunately, the diagnosis is not always possible on the basis of clinical data, since clinical manifestations are non-specific and objective evidence of systemic tuberculosis or exposure to the disease may be absent in up to 70 per cent of cases. Widespread use of computed tomography (CT) and magnetic resonance imaging (MRI) has greatly enhanced our diagnostic accuracy for intracranial tuberculoma and provides valuable information about the topography of lesions and their response to chemotherapy: nevertheless, CT and MRI findings should be interpreted with caution since neoplastic, fungal or parasitic diseases may cause similar changes to them.

Up to the present time, this association between tonsillar and multiple cerebral tuberculosis has not been described previously.

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