Diagnosis of disseminated tuberculosis from a lesion in the oral cavity

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A 55-year-old male patient, from Mexico City, stationery seller with no history of close contact with people living with tuberculosis, presented to our hospital with a two-month history of a painful ulcer on the right lateral margin of the tongue, associated with unintentional weight loss of 10 kg in four years, and night sweats. Physical examination revealed a 3 × 1.5 cm tender ulcer with irregular, raised, firm edges (Fig. 1). The patient had a 9-year history of rheumatoid arthritis with irregular treatment (indomethacin, methocarbamol, betamethasone, and leflunomide) and without follow-up.

A biopsy of the lingual ulcer showed a granulomatous infiltrate, with acid-fast rods on Ziehl-Neelsen stain (Fig. 2). An Xpert MTB/RIF ultra of the biopsy was performed which was positive with rifampin resistance not detected. A chest CT scan revealed cervical lymphadenopathy and micronodular infiltrates, with tree-in-bud pattern, suggestive of miliary tuberculosis (Fig. 3). A lumbar puncture was performed. The ZN stain was positive as well as the Xpert MTB/RIF ultra, with rifampin resistance not detected. \textit{Mycobacterium tuberculosis} susceptible to first-line drugs was isolated from both sites. The final diagnosis of disseminated tuberculosis was made. Tests for HIV and both hepatitis were negative.

Initial liver function tests were normal and first-line antituberculous drugs plus dexamethasone were started, the last one as part of the management of meningeal tuberculosis. However, after 5 days of treatment, drug induced liver injury was diagnosed, for which second-line antituberculous medications were given for one month. Upon presenting improvement in liver function tests, a twice staggered reintroduction with isoniazid and rifampin were tried, but failed. Although a significant improvement on ulcer epithelization was noticed after 6 weeks of irregular treatment (Fig. 4), the patient died of fulminant liver failure, despite having the antituberculous management suspended.

Tuberculosis is a disease characterized by granulomatous lesions, caused by \textit{Mycobacterium tuberculosis}. The most commonly affected organ is the lung; however, it can affect other organs. The affection of the oral cavity, less than 1% of the tuberculosis cases, often manifests as painful ulcers, being the tongue the most commonly affected site. Oral lesions are frequently associated with visceral infection, so a diagnostic approach for systemic infection must be performed, as we did in this case. Oral lesions tend to heal after antituberculous management. The relevance of this case consists in the diagnosis of disseminated tuberculosis, after identifying the presence of \textit{M. tuberculosis} infection in the oral cavity.

Covering letter

Tuberculosis continues to be a public health issue worldwide, mostly in third-world countries. Although rare and often overlooked, oral tuberculosis may be the presenting sign of the disease. The importance of this clinical case lies in recognizing extrapulmonary sites of affection of tuberculosis, which could lead to an early diagnosis and management/treatment to reduce complications and mortality.

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Ethical approval

The authors declare that no experiments have been performed on humans or volunteers for this research.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Conflict of interest

The authors declare that they have no conflicts of interest.