CASE REPORT

Primary tuberculosis of the palate

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SUMMARY

Tuberculosis (TB) is a life-threatening infectious disease with a high world incidence. However, TB with oral expression is considered rare. The importance of recognising this entity lies in its early diagnosis and treatment, as it can be easily confused with neoplastic or traumatic ulcers. We present a case of a primary TB located in the hard palate and gingiva in an 88-year-old woman.

BACKGROUND

Tuberculosis (TB) is a life-threatening infectious disease with a high world incidence, especially in developing countries. Although pulmonary forms are predominant, a significant proportion of patients (15–25%) manifest active infection in an extrapulmonary site.¹ However, TB with oral expression is considered rare.

The importance of recognising this entity lies in its early diagnosis and treatment in order to prevent the spread of the bacillus. Moreover, these lesions can be easily confused with neoplastic disorders and, consequently, diagnosis may be even more delayed.

CASE PRESENTATION

An 88-year-old woman visited the outpatient clinic in the oral and maxillofacial department due to a painful lesion of 1-month duration over the right alveolar process. Three months ago, the patient was referred for diffuse pain in the mouth, which she attributed to a progressive bad adaption of her dental prosthesis. Her family informed about a weight loss of 5 kg in the past 2 months, difficulty in the deglutition and progressive asthenia. No pulmonary signs and symptoms were present.

Physical examination revealed a 3 cm erythematous lesion sited in the right upper alveolar process and hard palate (figure 1). The lesion was painful, slightly ulcerative and showed a granular surface. Neck examination revealed the absence of palpable nodes.

Laboratory values revealed 38.5% haematocrit; leucocyte count was 10 800 cells/ μ L with 48% polymorphonuclear leucocytes. Biochemical levels showed Na concentration 130 mg/dL, creatinine concentration 1.58 mg/dL and urea concentration 50 mg/dL.

Owing to suspicion of a malignant lesion, an incisional biopsy was undertaken. Histopathological examination of the surgical specimen showed a conserved epithelium covering the subepithelial layers (figure 2), with widespread caseating granulomas surrounded by lymphocytes, epithelial cells and Langhans-type giant cells (figure 3). No neoplastic

changes were observed. Ziehl-Neelsen staining was negative.

With all these data, the diagnosis of oral TB was suggested and systemic analyses were performed in order to determine its primary or secondary origin. The Mantoux test showed a positive reaction. Chest X-ray did not show any lesion suggestive of pulmonary TB. Three sputum specimens were smear negative and culture negative.

DIFFERENTIAL DIAGNOSIS

Although the first clinical impression raised suspicions of a malignant or traumatic process, these were both dismissed based on the pathology results. In fact, the presence of caseating granulomas surrounded by lymphocytes, epithelial cells and Langhans-type giant cells confirmed the diagnosis of TB.

TREATMENT

The patient was referred to the department of infectious diseases for further management. Treatment was started with isoniazid (300 mg/24 h), rifampicin (600 mg/24 h), pyrazinamide (1500 mg/24 h) and ethambutol (900 mg/24 h) for 2 months and the patient was asked to continue with the first two drugs for the next 4 months.

OUTCOME AND FOLLOW-UP

The oral lesions resolved within 3 weeks of treatment. One week after, the culture of an oral biopsy was positive for *Mycobacterium tuberculosis* complex. A new sputum specimen was obtained at the end of month 2 which was also smear negative and culture negative. Moreover, all the X-ray controls resulted negative.

Figure 1 Clinical picture shows an ulcerative lesion with granular surface that affects the soft palate and right and upper gingiva.

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Figure 2 Microphotography showing a lymphocytic infiltration and necrosis under the intact mucosa—H&E, original magnification ×50.

The postoperative course was uneventful after the 6-month follow-up period. The patient's weight increased progressively while the disease was resolving and she could eat well again.

DISCUSSION

TB is an infectious disease caused by *M. tuberculosis*. The disease is a major health problem worldwide, but especially in Asia and Africa.² According to the WHO, in Spain a total of 7592 new cases were reported in 2009,³ representing a decrease from the previous years. It is considered a life-threatening disease with a mortality rate of 0.7/100 000 inhabitants. Moreover, over the past 20 years, there has been an increase in TB among patients who are HIV positive.⁴

Recently, Kakisi *et al*⁵ reviewed the English literature and found a total of 125 cases of TB with oral manifestations. In this revision, the mean age of patients was 37.3 years, of whom 17% were children. Only 19 cases have been described in the hard or soft palate.

M. tuberculosis is acquired by inhalation of aerosolised droplets containing the bacteria. Primary infection usually occurs in the lung parenchyma and the adjacent lymph nodes, resolving

after symptoms of mild respiratory illness. However, the organisms remain alive in the lung focus and may be reactivated leading to recurrence of the disease. TB of the head and neck has been extensively documented. The main locations include cervical nodes, larynx, middle ear, cervical spine involvement, parotid gland and oral cavity involvement.⁶

Oral manifestations closely resemble a malignant and/or traumatic ulcer, and should arouse suspicion in an elderly person not responding to treatment.⁷ It has been proposed that the bacilli may reach the oral cavity by haematogenous, lymphatic spread (from a lung lesion) or by direct inoculation. The diagnosis of primary pulmonary TB is not always easy to achieve. In most cases X-ray shows pulmonary infiltrates with cavitary lesions. Sputum smear examination allows an early diagnosis, and smear culture when positive confirms the initial suspicion. However, when these two tests result negative, invasive procedures (like transbronchial biopsy) may generally be necessary for diagnostic confirmation. In our case, we suggest that the patient may have been infected by direct inoculation and thus TB of primary origin should be considered. Owing to the lack of lung symptoms and radiological or bacteriological findings, we could not confirm the pulmonary origin. Thus, we suggest that the oral prosthesis with bad adaptation could have caused a traumatic ulcer, which was colonised by *M. tuberculosis*.

As soon as the suspicion of TB is raised, treatment must be instituted, even in the absence of culture confirmative results. Following the WHO guidelines,⁸ our patient was defined as a 'new patient with extrapulmonary TB', the standards of treatment for which are first 2 months of intensive antituberculous drugs (rifampicin, isoniazid, etambutol and pyrazinamide), followed by 4 months of two-drug treatment (rifampicin and isoniazid). In our case, the culture resulted positive 1 month after the treatment was instituted. The pathological results followed by a favourable resolution of the patient's clinical lesions with antituberculous drugs confirmed our suspicion of TB and highlighted the need for monitoring the patient. Another recommended method for patient monitoring in extrapulmonary forms of TB is weight control.

Learning points

- Definitive diagnosis of oral tuberculosis is not always easy to achieve. In our case, the histological evidence of tuberculous granuloma on H&E specimens was indicative of TB. Cultures often take several weeks; however, treatment should be started if there is a strong clinical suspicion.¹

Competing interests None.

Patient consent Obtained.

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Figure 3 Microphotography showing tuberculous granulomas composed of epithelioid cells, lymphocytes and multinucleated Langhan's giant cells with caseation necrosis—H&E, original magnification ×250.

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