PRIMER PAROTID TUBERCULOSIS IN TWO SIBLINGS

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Abstract

Tuberculosis of the parotid gland is an uncommon disease. In this study, we present primary parotid tuberculosis in two siblings. Two female siblings, of 16 and 14 years of age, presented with unilateral masses in the parotid region. Acid-fast bacilli were found in the aspiration fluid of the lesion. After the tuberculosis treatment, the patients were doing well.

In this study, we discussed clinical presentation, diagnosis, treatment of primary parotid tuberculosis, and noteworthiness the transmission of mycobacterium tuberculosis in extrapulmonary tuberculosis.

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Introduction

Tuberculosis (TB) is a worldwide infectious disease caused by Mycobacterium tuberculosis that can infect virtually any organ[1]. Tuberculous parotitis is a rare condition that presents as a parotid swelling or abscess[2,3].

It is thought that parotid gland tuberculosis possibly occurs by two different modes of development. First, it may begin as an infection of the teeth, tonsillar tissue, or by autoinoculation with infected sputum that reaches the parenchyma and/or lymphatics of the parotid gland by afferent lymphatics or ducts. Secondly, the parotid gland may be infected by metastases from the lungs by a hematogenous or lymphatic route[4,5]. Transmission risk might be high in parotid TB cases.

We present primary parotid tuberculosis in two siblings. To our knowledge parotid TB in two siblings at the same time seems to be the first in English literature.

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Case Report

Two female siblings, the first of 16 and the second 14 years of age, applied to our department due to a progressive masses in the parotid region, starting at an interval of 10 days for 1.5 months. Neither of them gave any past history of TB infection either in themselves or in their family.

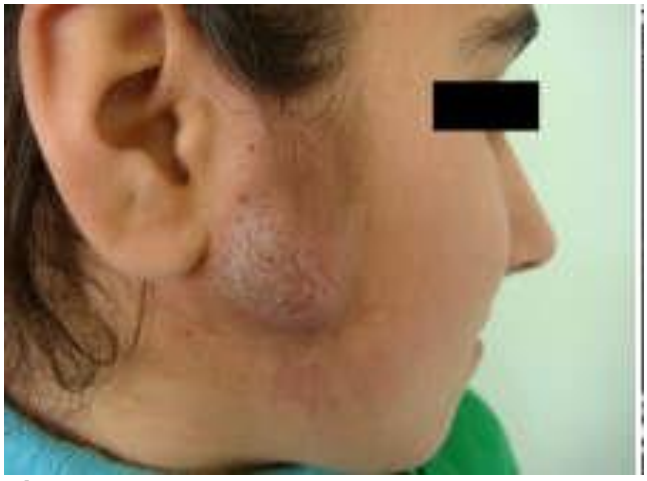

Figure 1a. Before treatment, fluctuating, hyperemic lesion in the right parotid region in the first sister.

All of the family was checked for TB and we did not detect the disease. Neither sister had a TB vaccine nor vaccine scars. Examination revealed a fluctuating 1.5×1cm hyperemic lesion

in the right parotid region in the first sister, and a 2×1 cm painless and immobile lesion in the second sister. There was no sign of fistula. Both of them had been given several courses of antibiotic treatment for several months with no improvement in their condition. Systemic examinations were normal.

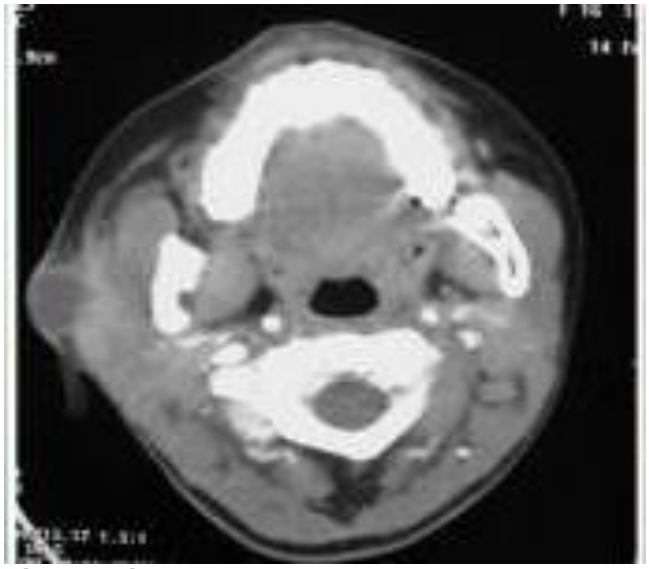

Figure 1b. After treatment, lesion recovered with scar.

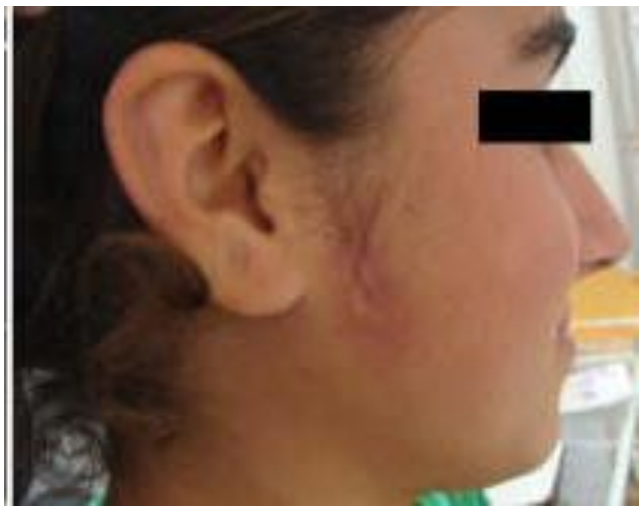

Figure 1c. We detected heterogenous enhancement in the right parotis gland on the neck CT scan of the second patient. A hypodense lesion (13X10 mm) originating from the right superficial lobe of the parotid gland and extending to the subcutaneous showed ring enhancement.

All the hematologic findings, biochemical data, erythrocyte sedimentation rates, and C-reactive proteins (CRP) were within normal limits in both sisters. The chest radiographies of both of them were normal. Analyses of sputum for acid-fast bacilli (AFB) showed negative results. Tuberculin skin tests were positive (an enduration of 13 mm) in both patients. Human immunodeficiency virus tests were negative. AFB was found in the repeated aspiration fluid of the lesion.

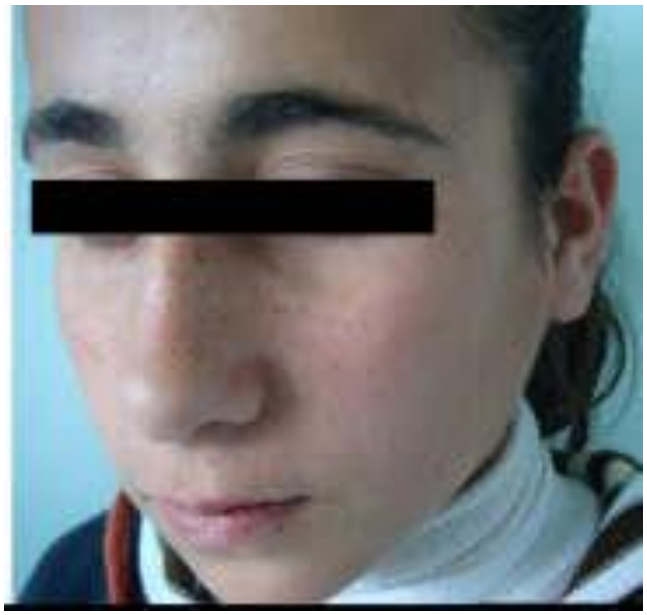

Figure 2a. Before treatment, a painless and immobile lesion in the left parotid region in the second sister.

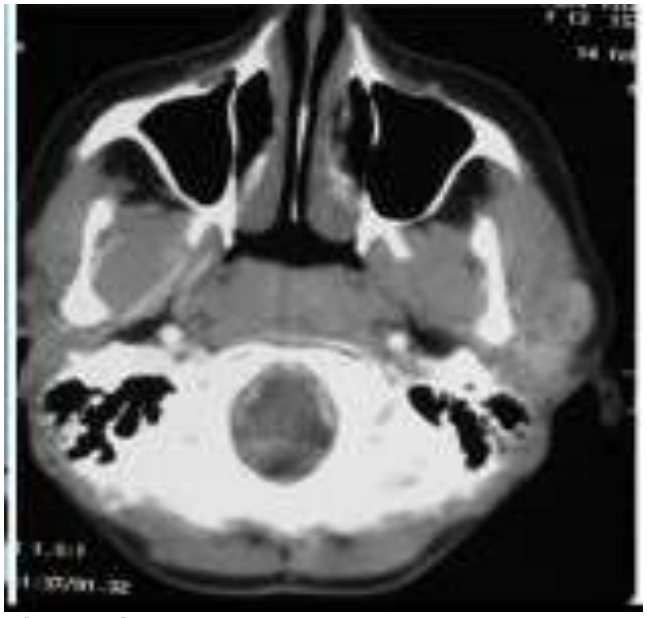

Figure 2b. After treatment, lesion recovered with scar.

The culture of these fluids for Mycobacterium tuberculosis was negative. Computed tomography (CT) scan showed

heterogenous enhancement in the right parotid gland of the first patient. A hypodense lesion (13X10 mm) originating from the right superficial lobe of the parotid gland and extending to the subcutaneous showed ring enhancement.

The neck CT examination of the second patient revealed two lesions in the left parotid gland: the first (12X10 mm) involving areas of cystic degeneration and the second (17X10 mm) had homogenous contrast enhancement. After the diagnosis, the patients were prescribed an 8 month course of isoniazid, rifampicin, ethambutol, and pyrazinamide. Ethambutol and pyrazinamide were discontinued after 2 months of therapy. At a 15-month follow-up, both patients were doing well; the lesions had recovered with a scar.

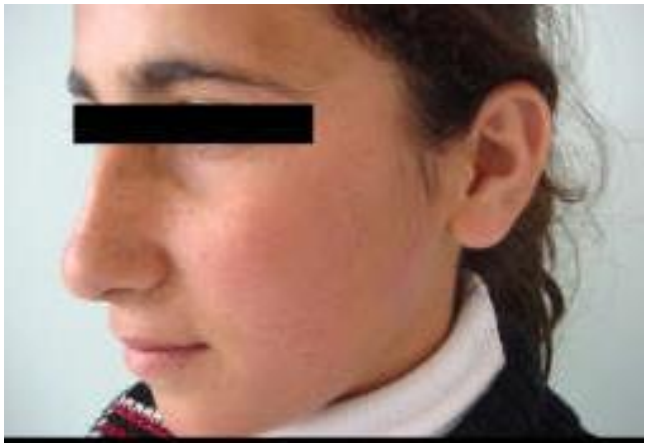

Figure 2c. Neck CT examinaton of the second patient revealed two lesions in the left parotid gland: the first (12X10 mm) involved areas of cystic degeneration and the second (17X10 mm) had homogenous contrast enhancement.

Discussion

Parotid TB is a rare condition and might occur primarily or secondarily to the lung. We were unable to detect a source of tuberculosis infection in the patient's oral cavity, nor did we find evidence of hematogenous or lymphatic spread of tuberculosis from the lungs or other sites. So, we think that the primary focus was the parotid gland. Although in earlier literature pulmonary involvement was reported to be more common in extratuberculos TB (especially cervical TB)[6], recent reports have showed less pulmonary involvement, indicating that cervical TB is a localized disease[7]. In a study in which seven cases of parotid TB were presented, the researcher did not determine active TB in the lung; however, chest x-rays of two patients were consistent with old TB lesions[8]. In our patients also, there were no classic TB symptoms and we could not detect any tuberculosis focus neither clinically nor radiologically.

The diagnosis of parotid tuberculosis can be made by analyses of AFB, DNA analyses, culture, fine needle aspiration cytology (FNAB), and open biopsy. However, the diagnosis is mainly confirmed by open biopsy. In our cases, through the repeated FNAB, diagnoses were made and patients were not need to be invasive procedures for the diagnosis.

A generally held concept is that TB is not contagious without pulmonary or laryngeal involvement[9]. However, there were extrapulmonary and extralaryngeal TB in our cases. Despite this, the development of TB in both siblings shows that extrapulmonary tuberculosis might be transmitted. In our opinion, a delay in diagnosis and treatment in patients with TB, as well as the neglect of a transmission factor in these cases might lead to an increase in the extrapulmonary TB rate. In our cases, there were no symptoms of TB and culture results were negative. In repeated aspirations from the lesions we obtain AFB, but the process of diagnosis has led to a delay in starting the treatment. Therefore, it should not be forgotten that transmission risk is high in extrapulmonary TB cases, and sufficient isolation should be ensured.

Conclusions

TB should be considered differential diagnosis of parotid masses because it can be diagnosed and treated medically without surgical procedures. Also due to the risk of the transmission of tuberculosis, extrapulmoner TB should be kept in mind.

Declaration of Interest

The authors report no conflict of interest and the article is not funded or supported by any research grant.

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