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Case Study

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PAROTID TUBERCULOSIS: A RARE CAUSE OF PAROTID ABCESS

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ABSTRACT

Introduction: Tuberculosis of the parotid gland is a rare condition, even in endemic countries. There are varied clinical presentations making diagnosis difficult. Most of the reported cases have been diagnosed after surgery. We report a case of parotid tuberculosis in a immunocompetent patient presenting as parotid abscess and discuss diagnosis difficulties. **Case report:** A 53-year-old female presented to the emergency with left parotid abcess. Diagnosis suspicion was based on family history of tuberculosis, first clinical presentation mimicking a neoplasm, evolution to parotid abcess and fistulization. Diagnosis was confirmed by histopathologic study after abcess drainage. The patient was succesfully treated by antitubercular drugs. **Conclusion:** Although rare, tuberculosis should be kept in mind and considered in the differential diagnosis of patients presenting with a solitary tumor in the parotid gland in order to avoid unnecessary surgery. In the other hand early diagnosis avoid the evolution to abcess and fistulization imposing surgical treatment and morbidity related to hospitalization, scar and risk of facial paralysis.

KEYWORDS: Parotid, Tuberculosis, Abcess.

INTRODUCTION

Tuberculosis is a necrotizing granulomatous disease caused by Mycobacterium tuberculosis or Mycobacterium bovis that can potentially affect any organ. Primary tuberculosis of the parotid gland is relatively rare even in developed countries where the disease is endemic. And most cases have been documented in Africa and India.[1,2] there are varied clinical presentations making diagnostic difficult and most of the reported cases have been diagnosed after surgery. We report a case of parotid tuberculosis in a immunocompetent patient presenting as parotid abscess and discuss diagnostic difficulties.

CASE REPORT

A 53-year-old female presented to the emergency with a progressively increasing swelling in the left parotid region of three-month duration. And since one week she has been complained fever, local pain and erythema. She had lost weight and had occasional nighttime sweating. Her son has been treated for pulmonary tuberculosis six months ago.

Physical examination revealed a 4 cm mobile, fluctuant mass of the left parotid region. The overlying skin was warm, erythematous. However no cervical lymphadenopathy nor facial palsy were found. She had no discharge into the mouth.

The complete blood count, erythrocyte sedimentation rate, other biochemical investigations, and chest radiograph were normal. An intradermal test with purified protein derivative (PPD) was performed and it was positive with 15 mm of duration. **CT scann** showed a bilobated hypodense mass of the inferior pole of the parotid gland with peripheral rim enhancement, mesured 31x 26 mm (figure 1). **Magnetic resonance** imaging showed a well-defined 34x28 mm mass lesion involving the inferior pole of left parotid gland. The lesion was hypointense on T1-weighted imaging and hyperintense on T2-weighted imaging with peripheral rim enhancement (Figure 2). During the explorations, the evolution was marked by the spontaneous fistulization of the mass at the cervical level, with issue of pus. We carried out bacteriological samples whose direct examination for BAAR with staining and the culture were negative.

A standard parotidectomy incision was performed and the abcess was drained by opening the facia of the gland. Histologic study showed epithelio-giganto cellular granuloma with caseous necrosis, strongly suggesting tuberculosis. A diagnosis of parotid tuberculosis abscess was made and the patient was started on anti- tubercular drugs for 6 months (figure 3). A follow-up ultrasound at 6 months showed resolution of the abscess

DISCUSSION

Tuberculosis is commonly involving the lungs, extrapulmonary forms are not at all uncommon and account for approximately 20% of overall active tuberculosis, affecting mainly the cervical lymph nodes, but the salivary glands appear to be rarely infected.[3,4,5] Tuberculous involvement of the parotid gland is extremely rare even in those areas where tuberculosis is endemic. The first case of parotid gland tuberculosis was reported by C De Paoli in 1893.[6]

A recent study in South Korea reported eight cases of major salivary gland tuberculosis among patients admitted at any of the three tertiary referral centers in a period of 10 years.[7] The parotid was involved in five (62.5%) cases. This may be due to the inhibitory effect of saliva on mycobacteria. Tuberculosis may reach parotid gland by afferent lymphatics or ducts from infected tonsillar, teeth or by autoinoculation with sputum, also heamatogenous or lymphatic spread from lung may occur.[6]

There are varied clinical presentations of parotid gland tuberculosis. The commonest mode of presentation is a slowly enlarging painless mass, over months to years, mimicking a neoplasm.[8–10] although benign neoplasms of parotid gland tend to grow slowly over years rather than over a few months, as in case of tuberculous involvement. This form is usually caused by involvement of intraglandular lymphnodes. Parotid tuberculosis may also present as sialadenitis with diffuse enlargement and the parenchyma is involved in this form. Some cases may present as an abscess resistant to antibacterial therapy. As our case, the patient presented with abscess formation, suggesting the late stage of the disease process. Parotid abcess is a rare complication of acute suppurative parotitis, related in adults to poor oral hygiene, long-term debility, and reduction in salivary flow.[11] A few cases of parotid abcess caused by Mycobacterium tuberculosis was reported. In an indian retrospective review, among forty patients diagnosed to have parotid abscess, two (5%) had tuberculosis however the most frequent microbiological profile was staphylococcus aureus with 34,4 %.[12] A finlandaise study in a pediatric population of 10 children reported tuberculous abcess of parotid in one girl. She was of African origin.[13] The possibility of tuberculosis should thus be kept in mind even in non-endemic areas. Indeed, the origin from endemic country, tuberculous contagion history, signs of tuberculous impregnation, evolution towards fistulization, allowed us to guide diagnosis for our patient. However, the search for primary focus of the disease was fruitless A total of 25% of patients with parotid tuberculosis have a concomitant pulmonary infection.[14] Imaging (ultrasonography, CT scann and MRI), is helpful for diagnosis but it is not specific. In the study of Sah and al, 10 cases have been misdiagnosed as benign and malignant tumors of parotid gland radiologically and received surgery.[15] FNAC plays important role in preoperative diagnosis of parotid tuberculosis. A sensitivity of 80 per cent, and a specificity of 93 per cent have been reported for tuberculous lesions[16] However, it is not always contributory to a diagnosis especially in abcess and necrotic parotid swelling. Currently most authors recommend amplifications techniques by polymerase chain reaction, this discovery has enabled physicians to make a diagnosis of tuberculosis rapidlyin less than 12 hours of processing and with certainty. No significant differences were found between the surgically resected and non-resected groups in terms of treatment results or morbidity. However, if treated properly, the prognosis of parotid tuberculosis is good and surgery is not required in most of the cases. however, Surgical drainage is considered necessary when an abscess has formed.[11]

CONCLUSION

Tuberculosis of the parotid gland is a rare clinical entity. The diagnosis needs a high degree of clinical suspicion and is commonly overlooked by treating physician. All attempts should be made for early diagnosis of this medically treatable condition and traditional parotidectomy can be avoided.

LEGENDES

Figure 1: Contrast enhanced computed tomography (CECT) of left parotid gland showing hypodense bilobated fluid collection with wall- enhancement and surrounding edematous changes, suggestive of parotid abscess.

Figure 2: Post-contrast axial MRI image demonstrates a rim enhancing abscess involving the left parotid gland

Figure 3: photograph showing the patient one week after incision drainage of the abcess.

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