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Parotid tuberculosis simulating malignancy

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Abstract
An interesting case of parotid tumour simulating malignancy is reported. The rarity of this lesion and the associated clinical and diagnostic problems are emphasized together with the relevant literature.

Key words: Parotid gland; Tuberculosis

Introduction

Tuberculosis is a rampantly prevalent disease in India. However, salivary gland tuberculosis is a rare entity (Taher, 1988). It is almost always associated with a tuberculous focus elsewhere in the body. We present an interesting case of parotid tuberculosis simulating malignancy.

Case report

A 26-year-old female presented to the Head and Neck services of this institute with a swelling in the preauricular region of six months duration. It was enlarging gradually and was associated with low grade fever. Although the patient denied the presence of cough with expectoration or haemoptysis there was a past history of pulmonary tuberculosis for which treatment had been taken 18 months earlier. Examination revealed a 10×10 cm mass in the preauricular region which was tender, firm in consistency and fixed to the deeper structures with no involvement of the skin. Intraoral and otorhinolaryngological examinations were normal. There was no cervical lymphadenopathy.

A provisional diagnosis of a malignant neoplasm of the parotid was made and the patient was investigated accordingly. Full blood count, biochemical investigations and chest X-ray were normal. Fine needle aspiration cytology of the parotid revealed mixed inflammatory cells. Computerized tomography (CT) revealed a soft tissue mass lesion 7–8 cm in size with variegated consistency demonstrated by a varying density of 15–60 Hu, with infratemporal fossa extension (Figure 1). There was no bony erosion and the paranasal sinuses were normal.

Since the clinical and radiological diagnosis of a parotid neoplasm with necrosis could not be confirmed on aspiration cytology, a surgical exploration was planned. Exploration revealed lymph nodes at level II for which a supraomohyoid neck dissection was done. Frozen section of the lymph nodes showed granulomatous lymphadenitis. This was followed by a superficial parotidectomy, which revealed an abscess occupying the whole of the deep lobe. The abscess was drained and the cavity curetted before closure with suction drainage.

Histological examination of the parotid gland revealed focal epithelioid granulomas, largely periductal in location, some of which showed caseation necrosis (Figure 2). Three intra-parotid lymph nodes and the dissected cervical nodes showed granulomatous lymphadenitis with caseation. The Ziehl-Nielson stain revealed acid-fast bacilli in the parotid gland and lymph nodes.

This patient received antitubercular chemotherapy with rifampicin, isoniazid and ethambutol for nine months. After six years of follow-up the patient is well and asymptomatic.

Discussion

Major salivary gland tuberculosis is a rare entity (Taher, 1988). It occurs secondary to primary lung disease as a result of haematogenous spread or auto-infection from infected sputum (Brooks *et al.*, 1982) and tends to affect the submandibular glands (Batsakis, 1976). Tuberculous

Fig. 1
Axial CT scan showing a parotid mass with varying density, extending to the infra-temporal fossa.

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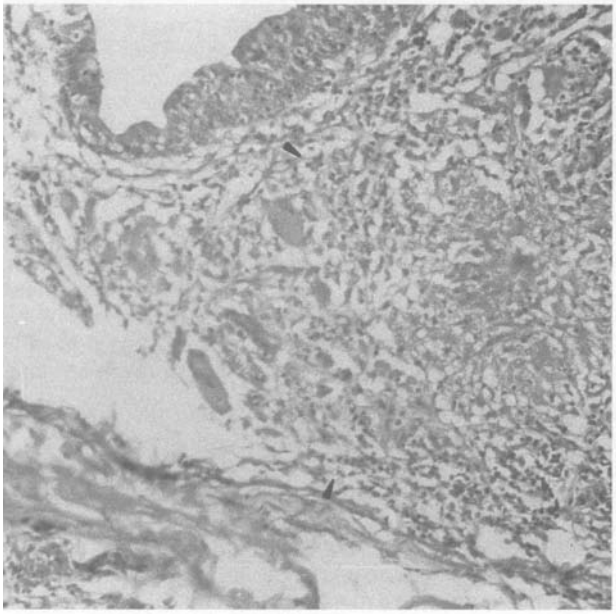

FIG. 2
Photomicrograph showing a periductal granuloma (arrowheads) with Langhans giant cells (H & E; × 100).

sialitis of the parotid gland is also known to occur secondary to infection in the oral cavity in two clinically recognized forms – acute tuberculous sialitis characterized by diffuse glandular enlargement and chronic sialitis which is asymptomatic and may be present for many years (Travis and Hecht, 1977). Associated tuberculosis of the intra-parotid lymph nodes is often noted.

Fine needle aspiration cytology is often the preliminary step in the work-up of a patient with a parotid mass. It is well recognized that fine needle aspiration cytology is not always contributory to a diagnosis in large parotid neoplasms as these are often necrotic (Kline, 1981). Thus, a negative fine needle aspiration cytology report does not rule out a malignant neoplasm and it becomes necessary to take recourse to other diagnostic aids such as CT and intra-operative frozen section consultation.

On CT, the lesions of tuberculosis in the parotid are usually multiple, benign appearing masses that are not cavitated and may be associated with cervical lymphadenopathy (Som and Bergerson, 1991). The CT scans in this patient showed a parotid mass of varying density and such non-homogenous lesions with cystic areas of lower attenuation (necrosis and mucoid degeneration) and areas of increased attenuation (haemorrhage) are common features of malignancy (Som and Bergerson, 1991).

Surgical exploration becomes mandatory when other investigations are non-contributory. The capability of providing a correct pathological diagnosis of a salivary lesion using the frozen-section is more than 90 per cent; the accuracy for benign parotid gland lesions is significantly better than for malignant neoplasms (Rignal *et al.*, 1986).

Tuberculosis should be considered by clinicians as part of the differential diagnosis of salivary gland masses. Effective antituberculous chemotherapy can lead to resolution of the lesion, avoiding the necessity of surgery. However, surgery is indicated for non-responsive cases, cold abscesses and to obtain a diagnosis when ancillary diagnostic tests are inconclusive, as in this patient.

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