Case Report

Tuberculosis of parotid gland masquerading parotid neoplasm

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ABSTRACT

Parotid gland involvement in tuberculosis is rare. We present a case of middle aged male presenting with parotid swelling for 1 year and diagnosed to have parotid tuberculosis on fine needle aspiration cytology. A brief review of radiological findings in tuberculous parotitis is discussed which can help in correct interpretation and timely diagnosis, and thus avoiding unnecessary parotidectomies.

Key words: Cytology, parotid, tuberculosis

INTRODUCTION

Tuberculous involvement of parotid gland is extremely rare.1-4 It is generally overlooked by clinicians and otolaryngologists (even in countries where tuberculosis is endemic) with most of cases undergoing unnecessary surgeries.4-9 Correct radiological interpretation can help in differentiating tuberculous involvement from benign neoplasms (pleomorphic adenoma) with which it is commonly confused.

CASE REPORT

A 45-years-male presented with mass in right parotid region, progressively increasing for last 1 year. No abnormality was found on physical examination. Local examination revealed a palpable 5 × 4 × 4.5 cm firm to hard lobulated mass in the right parotid region with no obvious systemic complaints. Ultrasound examination [Figure 1] using a linear array transducer showed diffusely enlarged right parotid gland with heterogeneously hypoechoic echotexture with no calcification or cystic degeneration.

Contrast-enhanced computed tomography of neck [Figure 2] showed right parotid enlargement with illdefined hypodense lesions. A provisional diagnosis of neoplasm was made. Fine needle aspiration cytology (FNAC) done from the lesion proved to be tuberculosis [Figure 3] with positive stain for acid fast bacilli (AFB). Retrospective analysis of radiological images provided clue to the lesion being infective (tuberculous) rather than neoplastic. The patient was successfully treated with standard anti-tubercular regimen for 6 months and showed complete resolution of the disease.

DISCUSSION

Extrathoracic involvement in tuberculosis occurs in approximately 20% of cases with tuberculous lymphadenitis being most common form involving cervical lymph nodes.1,2 Isolated involvement of parotid gland by mycobacterium is rare.10-13 Salivary gland infection is believed to be direct extension of the bacilli from the oral cavity via the gland ductal system (due to preceding tooth or tonsil infection). Hematogenous or lymphatic spread of infection is also known. 25% of patients with isolated tubercular parotitis have pulmonary infection.14 Clinical presentation can be acute in form of parotitis or chronic as progressively increasing mass of months to years duration.14 Chronic cases are difficult to distinguish from benign parotid neoplasms (pleomorphic adenoma). Preoperative diagnosis can be suggested by imaging methods with confirmation of diagnosis by FNAC/biopsy.
Radiologically tubercular parotitis can be differentiated as parenchymal and periparotid type. Sonographically parenchymal type presents as diffusely enlarged gland showing heterogeneously hypoechoic parenchyma with focal hypoechoic or anechoic areas within the gland. On colour Doppler minimally increased colour flow has been reported around the anechoic lesions. Periparotid type presents with enlarged hypoechoic nodes in periphery of gland with parenchyma showing hyperechogenicity. Neoplasms appear as well defined hypoechoic nodule with necrosis or hemorrhage seen as cystic areas with significant color flow with tumour substance on colour Doppler imaging. CT findings of a solid nodule with homogeneous enhancement, multiloculated nodal mass with thick smooth walled enhancing rims and central lucency and contrast enhancing solid nodule with an eccentric nonenhancing microcyst have been reported. Specific CT findings are multiple round, smooth thick, walled rim enhancing lesion with central luency within parotid with parenchyma showing diffuse enhancement with filling defects. Two typical patterns of tuberculous lymphadenitis are multiloculated nodal mass with thick smooth walled enhancing rims and central lucency and another pattern of low-density central mass with thick corrugated enhancing rim. Non-specific pattern are homogeneously enhanced masses and thin rim enhancing masses. On MRI lesions are hypointense on T1-weighted images, hyperintense on T2-weighted images with homogeneous postcontrast enhancement. FNAC or biopsy can be done to confirm the diagnosis with identification of bacilli by Ziehl-Neelsen (ZN) staining for AFB or culture methods. Medical therapy is treatment of choice with most of patients showing complete recovery. Index case has been treated with antitubercular therapy with near complete resolution of parotid swelling. The differential diagnosis of parotid mass lesion includes generally benign and malignant neoplasm of the parotid gland; however, tuberculosis and sarcoidosis should also be considered.

To conclude, parotid tuberculosis is an uncommon entity with atypical clinical presentations. It should be kept as differential diagnosis in solitary slowly enlarging parotid swelling with further characterization of the lesion by various imaging modalities. Correct radiological interpretation can rule out benign parotid neoplasm in most of cases and provide clue toward tubercular pathology.

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How to cite this article: Vyas S, Kaur N, Yadav TD, Gupta N, Khandelwal N. Tuberculosis of parotid gland masquerading parotid neoplasm. Natl J Maxillofac Surg 2012;3:199-201.

Source of Support: Nil. Conflict of Interest: None declared.