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Case Report

Ossifying fibroma of mastoid: a case report

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ABSTRACT

Ossifying fibroma is a slow growing benign neoplasm usually Involving bones of the skull and the face, mainly mandible and maxilla. The tumor is composed of bone that develops within fibrous connective tissue, sometimes with cementum-like calcifications. Clinical presentation is usually asymptomatic, rarely presented with facial asymmetry, swelling, pain, bowing of long bones. Radiological investigations are mainly computed tomography (CT) scan and magnetic resonance imaging (MRI). Ossifying fibroma very rarely can be seen as a tumor in temporal bone. In this case report 30-year-old male presented with a history of blocked ear and occasional left ear ache. On examination left externa auditory canal was narrow with bony prominence in the posterior canal wall. CT and MRI revealed left mastoid mass, during surgery hard vascular mass filling the mastoid antrum dissected out and histopathology confirmed as ossifying fibroma. The definitive treatment of ossifying fibroma is complete surgical excision. Complications can be local invasion, intracranial extension.

Keywords: Benign neoplasm, Ossifying fibroma, Mastoid, Fibro osseous tumor

INTRODUCTION

Ossifying fibroma is a slow growing benign neoplasm usually Involving bones of the skull and the face, mainly mandible and maxilla.[1,4,5,7] The tumor is composed of bone that develops within fibrous connective tissue, sometimes with cementum-like calcifications.[2] Ossifying fibroma is usually asymptomatic initially, later may presented with facial asymmetry, swelling, pain, bowing of long bones. Diagnostic investigations are mainly computed tomography (CT) scan and magnetic resonance imaging (MRI).[3] Very rarely seen as a tumor in temporal bone. In this case report 30-year-old male presented with a history of blocked ear and occasional left earache and on examination left externa auditory canal was narrow with bony prominence in the posterior canal wall. CT and MRI revealed left mastoid mass. Hard vascular mass filling the mastoid antrum dissected out during surgery and histopathology confirmed as ossifying fibroma. The definitive treatment of ossifying fibroma is complete surgical excision. Complications can be local invasion, intracranial extension. We are presenting this case report because of its rare nature.

CASE REPORT

30-year-old male attended ENT clinic with recurrent history of blocked ear with occasional left earache. On examination left externa auditory canal was narrow with bony prominence in the posterior canal wall (Figure 1). Both tympanic membranes were normal, pre and post auricular area normal with normal facial nerve function. Clinically diagnosed as hyperostosis of the external auditory canal.

Pure tone audiometry was normal both sides. CT scan temporal bone showed left externa auditory canal irregular and narrowed, left mastoid loss of normal aeration with abnormal expansion, bony osteolysis, cortical rarefaction, normal middle ear cavity with intact ossicles (Figure 2). MRI temporal bone revealed expansion of left mastoid with absent aeration, soft tissue mass 6×5×4 cm, with well-

defined borders, no extension outside the cortex (Figure 3a), with gadolinium showed non homogenous enhancement, externa auditory canal narrowed due to expanded mastoid encroaching it, normal middle ear cavity and internal ear and no intra cranial extension seen (Figure 3b).

Figure 1: Endoscopic picture of external auditory canal.

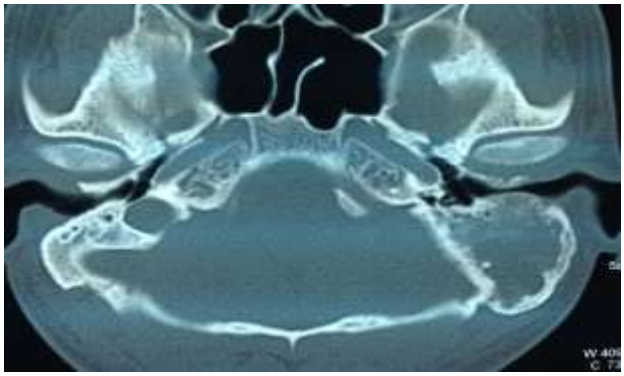

Figure 2: CT scan plain, left mastoid.

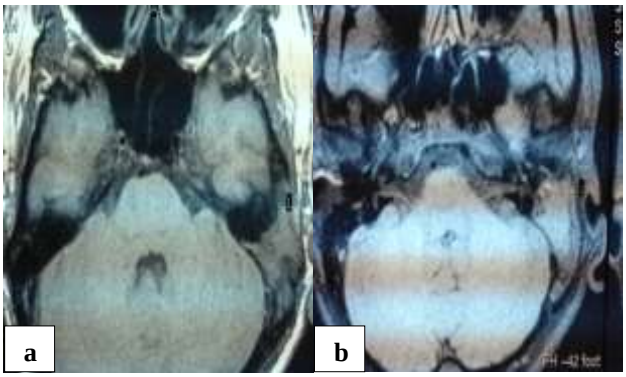

Figure 3: (a) MRI T1 weighted image left mastoid, and (b) MRI with gadolinium contrast left mastoid.

Patient underwent mastoid exploration. Mastoid cortex and posterior canal wall showed extensive erosion. Hard vascular mass filling the mastoid antrum dissected out in 6 pieces, largest being 3×1.8 cm and smallest 1×1 cm size (Figure 4a and 4b). Specimen send for histopathology examination. Middle ear was normal.

Figure 4: (a) Excised mass, and (b) excised mass (largest piece).

Histopathology showed spindle cell lesion formed of spindle and plump cells in collagen fibers, curved irregular trabeculae with surrounding osteoblasts with various stages of maturation, few osteoclasts at the periphery of the lesion, reported as ossifying fibroma (Figure 5a and b).

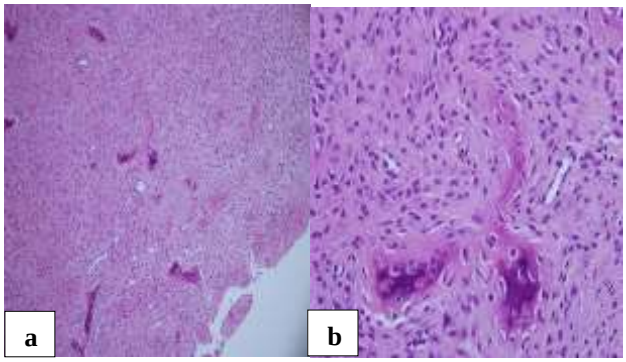

Figure 5: (a) and (b) Histopathology of excised mass.

Patient followed 1 week, 1 month, 2 months, 4 months and 6 months, with no evidence of recurrence. 3 months postoperative pure tone audiometry was normal.

DISCUSSION

Ossifying fibroma is a benign, slow growing, fibro-osseous tumor, usually involving bones of the skull and the face, mainly mandible, maxilla, rarely in orbit, nasal bone, long bones and extremely rare in temporal bone.[1,4,5,7] Etiology is unknown. Seen more frequently in females in 2nd to 4th decades of life. It can be clinically presented similar to hyperostosis of the external auditory canal.[6] Pathology is replacement of normal bone by a fibrous cellular stroma containing fossa of mineralized bone trabeculae and cementum like material.[2]

There are 4 sub types: psammomatoid variant, trabicular variant, gigantiform cementoma and ossifying fibroma not otherwise specified.[8] Psammomatoid variant arises mainly around paranasal sinuses and orbits. Trabicular variant usually affects maxilla. Gigantiform cementoma is an odontogenic neoplasm arising from the periodontal ligament, affects the tooth bearing areas of jaws, mandible and maxilla.

Clinical presentation is usually asymptomatic, rarely presented with facial asymmetry, swelling, pain, bowing of long bones. Radiological investigations are mainly CT scan and MRI.[3] CT scan usually show well circumscribed lesion with intra cortical osteolysis, moderate cortical expansion, homogenous lesion of matrix. In MRI T1 - low signal intensity, T2 – iso or high signal intensity and with gadolinium shows enhancement.

Differential diagnosis, osteogenic tumors of the mastoid process are comparatively rare. Osteoma the most common type, arises from periosteal cells, form exostosis like elevations, fibrous dysplasia still a rarer expanding bone lesion.[2]

The definitive treatment is complete surgical excision. Complications can be local invasion, intracranial extension. Recurrence chance can be 20 to 40%. Need long term follow up.

CONCLUSION

In summary ossifying fibroma, common areas of affection are bones of the skull and the face, mainly mandible and maxilla, but rare presentations sometimes occur in mastoid, like in our case. So with any expansible space occupying lesions in the mastoid, ossifying fibroma should be considered as a differential diagnosis.

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