AMELOBLASTOMA OF THE MAXILLA

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ABSTRACT

A case of recurrent maxillary ameloblastoma in a 48 year's old lady is presented along with a brief review of literature. The factors determining recurrence, modalities of treatment and management of recurrence are discussed.

Key Words: *Ameloblastoma, Maxilla.*

INTRODUCTION

Ameloblastoma is a benign but locally aggressive tumour arising from the epithelium of odontogenic tissue. These tumours are rarely seen in the maxilla comprising only 20% of all reported cases of ameloblastomas.¹ They occur in the older age group and have a poor prognosis. The most common histological type is the follicular pattern. A case of recurrent ameloblastoma of the maxilla with twice recurrence after surgery, treatment by irradiation and mixed histological pattern is reported.

CASE REPORT

A 48 yrs old lady presented to me Otorhinolaryngology and Head Neck service, Manipal Teaching Hospital, Pokhara, Nepal with the chief complaint of swelling in the left side of the face of 5 yrs duration. She had been operated for the same on two occasions, once 4 years back and then 3 years back. She also underwent 6 weeks of radiotherapy for the same 2 years back without any improvement.

On examination there was a smooth, globular, diffuse, cystic soft tissue swelling over the left nasomaxillary groove (Fig.1), The swelling was seen to expand into the left nasal cavity. There was no eggshell crackling and all the teeth were intact

and appeared healthy. A CT scan of the nose and paranasal sinuses showed a non enhancing expansile mass lesion, mainly cystic with a few solid areas occupying the left maxillary antrum, thinning the medial wall and the roof of the left maxillary sinus and extending into the ethmoid sinuses. The left frontal sinus showed features of secondary sinusitis

Fig. 1

Fig. 1 : Clinical photograph showing swelling over the left nasomaxillary groove.

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Fig. 2

Fig. 2 : CT showing a non-enhancing expansile mass in the left maxillary antrum.

(Fig 2). Relevant documents of the previous surgical procedures were not available. An FNAC from the swelling showed features suggestive of a benign infected cyst. Laboratory investigations were normal.

The patient underwent left medial maxillectomy with ethmoidectomy and sphenoidotomy via left lateral rhinotomy approach. Intraoperatively the swelling was found to be well encapsulated, cystic, eroding the medial wall, roof and the anterior wall of the left maxilla and left ethmoid. The mucosa of the ethmoid and the sphenoid sinuses were found to be polypoidal and necrotic. The tumour was excised *In toto* and sent for histopathological examination. The patient had an uneventful postoperative recovery and was discharged on 11th postoperative day after suture removal and cavity care. At 2 months follow up cavity had epithelised well without any evidence of residual or recurrent disease. She was advised 3 monthly follow up for 1 year. She was disease free in the last follow up at 9 months after surgery.

Grossly the tumour measured 5x4x2 cms. Cut surface showed a cystic tissue with nodular and papillary areas. The nodules were continuous with the wall of the cyst and the largest measured 1.5 cms in the greatest dimension. Cut surface of the nodule showed soft greyish white tissue merging with the wall of the cysts.

Histology sections (Fig.3) showed a tumour comprising of sheets and nests of neoplastic cells containing two types of cells. Peripheral cells showed elongated nuclei with palisading arrangement and basophilic cytoplasm. Central portion of the

Fig. 3

Fig. 3 : Microphotograph of Ameloblastoma showing mixed histological pattern (H & E x 40).

sheets of tumour showed reticulum cells with clear cytoplasm, round to oval nuclei with open chromatin and inconspicuous nucleoli. These nests of cells were found to be separated by hyalinised collagen bundles. Some areas in the wall of the cyst showed geographic configuration of tumor nests with basaloid appearance. Some of the nests showed whorls comprising of squamous cells. Other areas of the tumour showed sheets of neoplastic cells and cylindrical spaces containing eosinophilic dense material and eosinophilic globules. Some areas showed papillary structures with fibrovascular cores surrounded by neoplastic cells. Tumour was surrounded by fibrous tissue forming cystic space lined at places by stratified squamous epithelium and at other places by multilayered cuboidal cells. Lining epithelium of the cyst also showed ciliated pseudostratified columnar epithelium. Few mitotic figures were also seen.

DISCUSSION

Ameloblastomas occur between the ages of 40 to 60 years in both sexes. It is generally accepted that only 20% of the ameloblastomas occur in the maxilla, of these 47% occur in the molar region, 15% in the antrum and floor of nose, 9% in the premolar area, 9 % in the canine region and 2% in the palate.

The most common clinical presentation of maxillary ameloblastoma is a slow growing painless swelling of the upper jaw. Other symptoms, which may be present, are nasal obstruction and cheek or palate swelling.

Close proximity of the maxilla to the nasal cavity, nasopharynx, paranasal sinuses, orbits and skull base can lead to extension of these tumours into these areas and cause delay in diagnosis. When the maxillary sinus and the surrounding structures are involved, opacification of the sinus and expansion and destruction of its walls make it difficult to distinguish from

malignant and invasive tumours. In this case ameloblastoma was ballooning the medial wall of maxilla into the left nasal cavity, eroding the anterior wall and the roof of maxilla although without any penetration.

Various modalities have been proposed in the treatment of ameloblastoma viz. wide excision, curettage and enucleation, cryotherapy, cautery, laser, radiotherapy and chemotherapy. The current trend in the surgical treatment of ameloblastoma of the maxilla has been either conservative or radical. The conservative approach includes enucleation or curettage and the radical approach includes resection which would be defined by the anatomic extension of the tumour i.e. either a partial or a total maxillectomy. Enucleation and curettage have been reported with highest rate of recurrences. The best surgical method of treating maxillary ameloblastoma is reported to be wide excision with a 10-15mm margin of normal bone.² Radical resection significantly lowers the recurrence rate. Although there are reports in the literature of treating ameloblastoma with radiotherapy and chemotherapy, radiotherapy may induce osteoradionecrosis and there is also a risk of inducing a malignant condition such as transformation of original ameloblastoma into ameloblastic carcinoma.³ Moreover ameloblastomas are generally considered to be radioresistant. Chemotherapy when used independently does not seem to be effective despite the variety of agents, schedules and routes of administration that have been reported. These methods should be employed only when surgery is not possible due to patient's age, medical condition, size and location of the tumour. Considering the risk of recurrence in conservative surgeries and radioresistant nature of this tumour, it is justified to opt for radical resection as was done in this case.

Several histological types of ameloblastomas have been described which include follicular, plexiform, unicystic, basal cell, granular cell, clear cell, acanthomatous, vascular and desmoplastic patterns. Of these follicular type is commonest. Mixed pattern was found in this case i.e. with features of follicular, basaloid, acanthomatous, granular and cystic varieties. Ameloblastomas of this type of histology are rarely found in the literature.⁴

Ameloblastoma of the maxilla can pose diagnostic problems due to local invasiveness of the tumour, particularly when it occurs in an old patient and with history of recurrence. Enucleation and curettage has high recurrence rates. Radical surgical excision in the form of partial or total maxillectomy is the surgery of choice for invasive and recurrent ameloblastomas of the maxilla. Radiation for these tumours is no more than palliation.

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