Original article:

Plexiform ameloblastoma : A negligence by Dentist?

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Abstract:

Plexiform ameloblastoma is one of the variant of ameloblastoma, with specific histopathological features. It manifests as unilocular or multilocular radiolucencies in the mandible or maxilla. In very rare cases, it can appear as a localized periradicular radiolucent area and imitate an endodontic lesion. Reported here is a case of plexiform ameloblastoma with a history of traumatic extraction of mobile tooth without taking prior radiograph indicating the importance of following all the protocols before performing any surgical intervention. Surgical enucleation was followed and diagnosis of plexiform ameloblastoma was confirmed on histological grounds.

Keywords: Plexiform ameloblastoma, mandible

Introduction

Ameloblastoma is a benign odontogenic tumour of epithelial origin without induction in the connective tissue. It represents 10% of all the tumors of the jaw bone. [(1)] It is benign but locally aggressive neoplasm that arises from remnants of the dental lamina and dental organ (odontogenic epithelium). Most of these arise in the molar-ramus area of the mandible, and are occasionally associated with unerupted third molar teeth. [(2)] It is primarily seen in adults in the third to fifth decade of life, with equal sex predilection. Radiographically, it appears as an expansile radiolucent, with thinned and perforated cortices, and is known to cause root resorption. It can be a unilocular or multilocular radiolucent lesion with a honeycomb or soap bubble appearance. It is characterized by slow growth and local infiltration into the adjacent tissues.[(3,4)] There are three forms of ameloblastomas, namely peripheral, unicystic, and multicystic tumors. Multicystic ameloblastoma is common and represents 86% of all the cases.[(4)]

As it shares radiographic features with other lesions such as the giant cell tumor, aneurismal bone cyst, and renal cell carcinoma metastasis, a definitive diagnosis can only be made with histopathological investigation. The common histopathological variants of ameloblastoma are the follicular and plexiform types, followed by the acanthomatous and granular cell types. Uncommon variants include desmoplastic, basal cell, clear cell, keratoameloblastoma and papilliferous ameloblastoma.[(2)] It is of no significancein regard to prognosis or clinical management whether a tumor is diagnozed as a follicular, plexiform or other variants of ameloblastoma, except for the clear cell variant. [(5)] Some cases of benign and malignant lesions mimicking other periapical lesions radiographically, such as odontogenic cysts, lymphomas, periapical cemento-osseous dysplasias, central

giant cell lesions and ameloblastomas, have been described in the literature. The plexiform pattern is less aggressive and has a significantly lower recurrence rate.[6]

Case report

A 30 year old male patient came to the department with chief complain of growing mass in left lower posterior tooth region since 2-3 months. Patient was apparently alright 1 year back when he complained of mild intermittent dull pain accompanied by mobility of teeth lasting for 3-4 months with no history of trauma, food lodgement or decayed tooth. No history of any extra oral or intraoral swelling and pus discharge. Patient visited dentist for same and was advised for extraction of teeth. He underwent extraction without prior radiograph of two teeth as patient may recall one of the teeth was mobile while extracting the other was painful and associated with increased bleeding and no sutures were given (traumatic extraction according to patient) and was made to wait in the clinic for 45 min after the extraction. Post extraction instructions were not followed properly. After extraction patient visited dentist with the complain of dull pain in extraction site and on examining the site he was told that the extraction site didn't healed and underwent curettage and dressing. Patient was asymptomatic for 2 months occasionally there was bleeding from the site associated with painless well defines smooth mass growing on the extraction site which gradually enlarged in size in 4-5 months time with no paresthesia or numbness in the region. There was no facial asymmetry.

Intra orally a solitary exophytic ovoid well defined growth of size appz 1.5 cm in diameter on edentulous ridge i.r.t 37,38 involving attached gingival and retromolar region extending more buccally 0.5 cm distal to 36 with overlying mucosa slightly reddish pink and area of necrosis distal to 36 (fig 1) .On palpation the lesion was firm non tender fixed to underlying and overlying mucosa with area of perforation in lingual cortical plate but bony expansion. Missing 37,38 and mobility in 35,36. Chair side investigation: vitality testing showed 34 vital and 35,36 non vital.

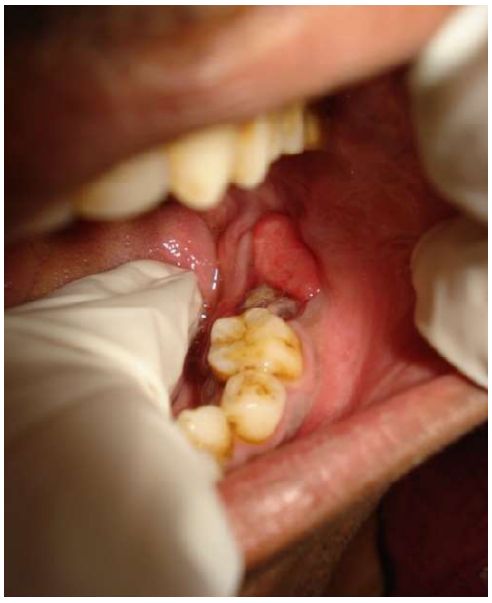

Fig 1: Exophytic growth with area of necrosis.

Periapical radiograph of the concerned region showed dark dense radiolucency with sclerotic border (fig 2). Occlusal view showed lingual plate destruction and buccal cortical plate expansion (fig 3). To rule out the posterior extent of the lesion panoramic view was taken showing dark dense elliptical radiolucency with well

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defined sclerotic borders of size appx 3cm×1cm from distal of 34 into ascending portion of ramus causing root resorption of 35,36. (fig 4)

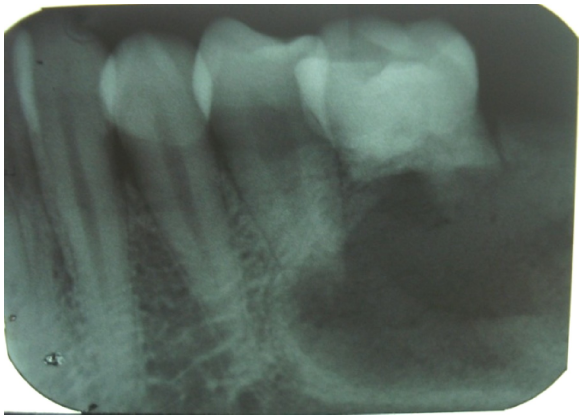

Fig 1 Periapical radiograph showing radiolucency

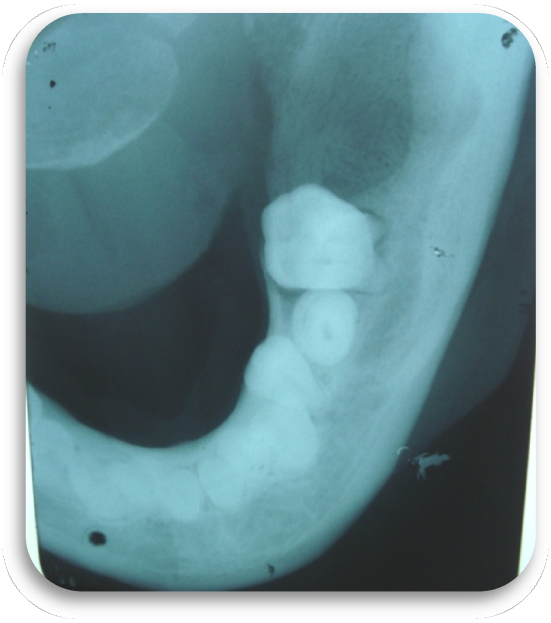

Fig 3 Occlusal view showing buccal cortical expansion

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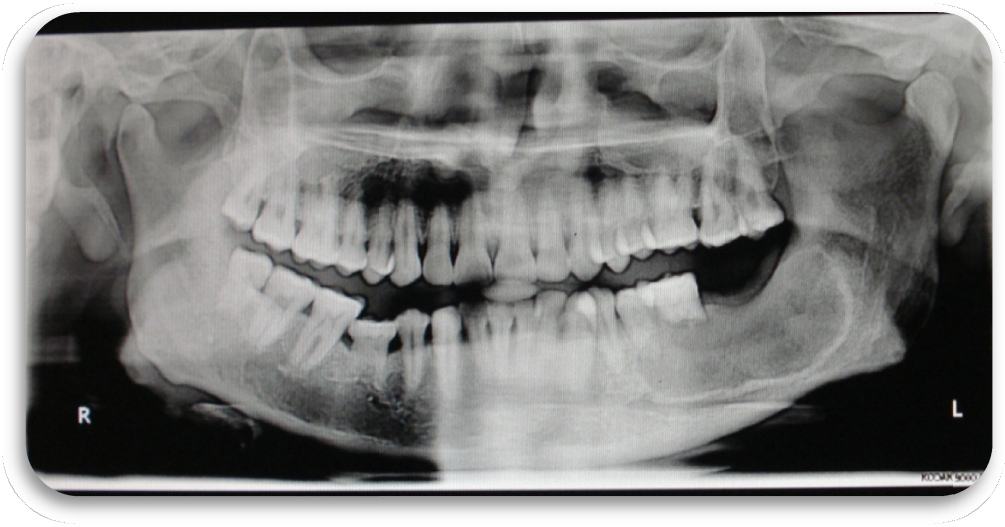

Fig 4 Panoramic view showing well defined corticated periapical radiolucency

Based on the clinical and radiological picture provisional diagnosis of begnin odontogenic tumour(OKC) was made with differential diagnosis of ameloblastoma and Peripheral giant cell granuloma (PGCG). Biopsy confirmed Plexiform Ameloblastoma (Fig 6). Treatment included hemimandibulectomy followed by reconstruction plate with regular follow up.

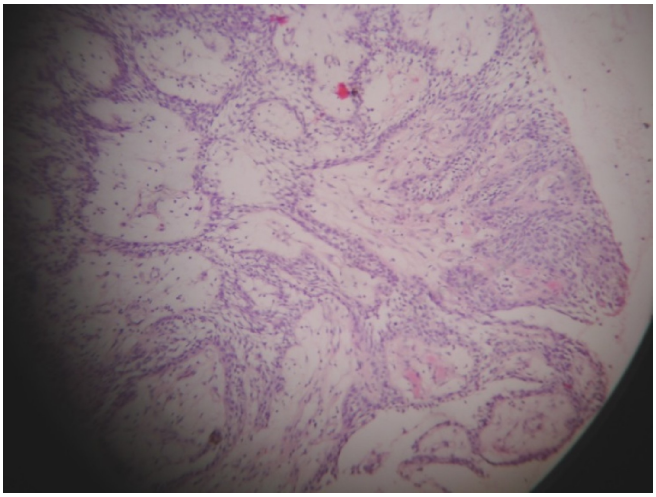

Fig 6 Histological picture

Discussion

The ameloblastoma is a benign but aggressive odontogenic neoplasm. Ameloblastomas arise from either neoplastic transformation of odontogenic cyst epithelium or from residual epithelial rests left over from the formation of teeth, such as remnants of the enamel organ (reduced enamel epithelium) found over the crown of an unerupted tooth, remnants of Hertwig's epithelial root sheath (rests of Malassez) in the periodontal ligament or remnants of the dental lamina (rests of Serres). Ameloblastomas may be confused clinically with other jaw lesions, and occasionally with infiltrating neoplasms of the maxillary sinus, particularly those of salivary gland origin.[7]

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Ameloblastoma appears equal frequency between sexes, although a higher frequency in females than in males has been described.[8] In our case, the patient was male and was in his fourth decade . Clinically, it frequently manifests as a painless swelling, which can be accompanied by facial deformity, malocclusion, ulceration and periodontal disease and paresthesia of the affected area. In our case, clinical examination revealed a small, mass in the third molar region of the mandible. The swelling was hard, painless to palpation and covered by well defined exophytic growth with areas of necrosis.

In this case there was a history of traumatic extraction of mobile tooth without taking radiograph which proved to be deleterious for the patient. Before any surgical intervention a thorough history, clinical examination as well as radiological investigation is mandatory. In this case patient is giving the history of mobile teeth before extraction indicating a periapical or periodontal pathology . Traumatic extraction added more insult to already present pathology causing it to undergo neoplastic changes.

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