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CASE REPORT

AMELOBLASTOMA- A CASE REPORT- EMPHASIZING THE VALUE OF COMPUTED TOMOGRAPHY IN RADIOGRAPHIC DIAGNOSIS

Esha Garg[1], Reva Bembi[1], Sandeep Bains[2], Archana Bhatia[3], Satya Arya[4]

[1]P.G student, [2]Reader, Oral Medicine & Radiology, [3]Reader, Periodontics & Implantology, Dasmesh Institute of Research and Dental Sciences, Faridkot, Punjab, India, [4]Consultant Endodontics

ABSTRACT:
Ameloblastomas are locally aggressive benign epithelial odontogenic jaw tumors having high propensity for recurrence and believed to arise from remnants of odontogenic epithelium, lining of odontogenic cysts or basal layer of overlying oral mucosa. These are commonly found during third to fifth decades; with equal frequency between sexes. They can occur either in maxilla or mandible at any age but most frequently presented as a painless expansion in the mandible (commonly involving molar and ramus area). It occurs in three different clinical‑radiographic patterns i.e. conventional intraosseous- solid/multicystic, unicystic and peripheral. The common histological patterns include the follicular and plexiform variants, less common being the acanthomatous, granular, desmoplastic and basal forms. Here we present a case report of desmoplastic ameloblastoma in 38 years old male patient. This report also emphasized the value of Computed Tomography in radiographic diagnosis of multilocular lesions.
Key Words:- Ameloblastoma, Desmoplastic, Acantomatous, Computed tomography (CT).

Corresponding author: Dr. Sandeep Bains, Reader, Oral Medicine & Radiology, Dasmesh Institute of Research and Dental Sciences, Faridkot, Punjab, India. E mail: drsandeepk@yahoo.com

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INTRODUCTION

Ameloblastoma is described for the first time by Broca (1868) as adamantinoma and then recoined by Churchill (1934)[1,2]. According to WHO 1992 definition Ameloblastoma is defined usually as:- unicentric, nonfuntional, intermittent in growth anatomically benign, locally invasive polymorphic neoplasm consisting of proliferating odontogenic epithelium, which usually has a follicular or plexiform pattern, lying in a fibrous stroma[3]. Its incidence, approximately 1% of all oral tumours and 18% of all odontogenic tumours, combined with its clinical behaviour, make ameloblastoma the most significant benign odontogenic tumor. The ameloblastoma occurs in three clinico-radiographic variants: solid or multicystic (86%), unicystic (13%), and peripheral (1%)[1,4]. Histologically, most common types of ameloblastomas are follicular (32.5%) and plexiform (28.2%) varieties and the uncommon variants include acanthomatous (12.1%), granular cell types, desmoplastic (8.6‑13%), basal cell (2%) and clear cell[5]. Desmoplastic ameloblastoma (DA) has a marked predilection in anterior regions of the jaws. Histologically, DA is characterized by small nests and strands of "compressed" odontogenic epithelium supported by pronounced collagenized stroma[6,7]. When extensive squamous metaplasia, often associated with keratin formation occurs in central portions of the epithelial islands of follicular ameloblastoma, the term acanthomatous is used, which is commonly found in posterior regions of jaw[8]. Here we report desmoplastic ameloblastoma in 38 years old male patient in mandibular anterior region.

CASE REPORT

A 38 years old male patient reported to department of Oral Medicine and Radiology with the chief complaint of swelling in the lower front tooth region of jaw since 6 months. Patient revealed a history of insidious onset of swelling as a small

nodule, gradually reaching the present extent without any paresthesia and blood or pus discharge but was associated with mild, intermittent type of pain. Patient had not consulted any dentist and had not taken any medication for the same**.** Past medical history was noncontributory. On extraoral examination no gross facial asymmetry was noticed. Intraoral examination revealed missing 33, 43 and solitary well defined oval shaped swelling on lingual side extended from distal surface of 32 towards distal surface of 42 and superoinferiorly from cervical margins of involved teeth to 1cm above the floor of mouth. Swelling was approximately 1.5 x 1 cm in size. It was smooth surfaced. Overlying mucosa and surrounding mucosa appeared to be normal. On palpation swelling was hard and non tender in nature, without any discharge or ulceration. On labial side, well defined hard and non tender swelling was noticed in 31,41 region obliterating the labial vestibule (Figure 1).

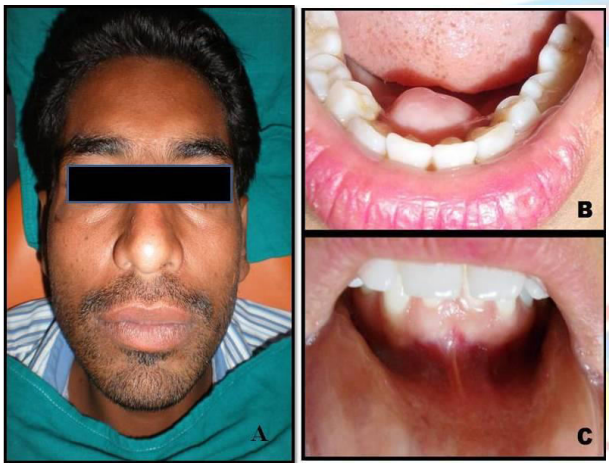

Figure 1:- (A) Extraoral front profile; (B) Intraoral Picture showing swelling on lingual side; (C) Buccal side.

No lymphadenopathy was present. The involved teeth were vital and exhibited no mobility. Intraoral periapical radiograph showed a multilocular radiolucent lesion in periapical area of 31, 41 with ill defined borders. Mandibular cross sectional occlusal radiograph showed a multilocular radiolucent lesion in 31,32,41,42 with expansion of lingual cortical plate. Panoramic radiograph revealed a diffuse, ill defined, radiolucent lesion interspersed with radiopaque septae, producing a multilocular appearance with loss of periodontal ligament space and lamina dura in apical third i.r.t 31 and 41 (Figure 2). CT revealed the mixed lesion which was expanding more on lingual aspect as compared to on labial aspect and size of lesion was 2.5 x 1.8 cm. Lower border of mandible was intact (Figure 3). The overall clinical and radiographic features were suggestive of an odontogenic tumour probably an ameloblastoma.

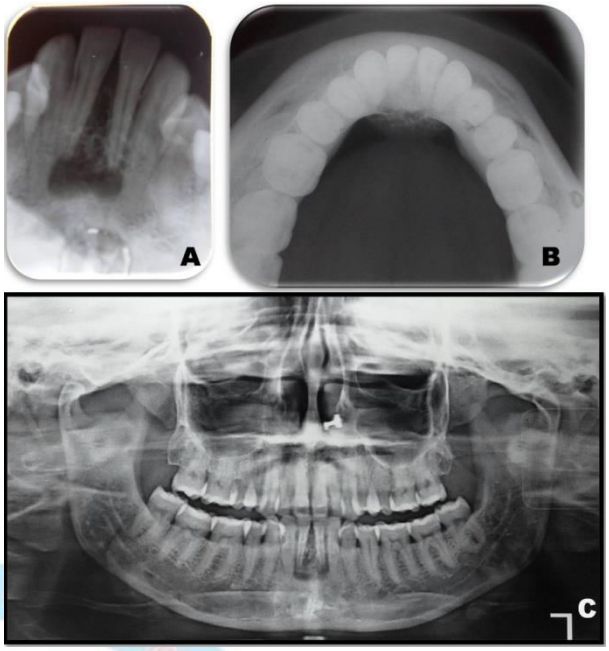

Figure 2:- (A) Intraoral periapical radiograph i.r.t 31,32,41,42 region; (B)Mandibular cross sectional occlusal radiograph; (C) Orthopantomogram (OPG).

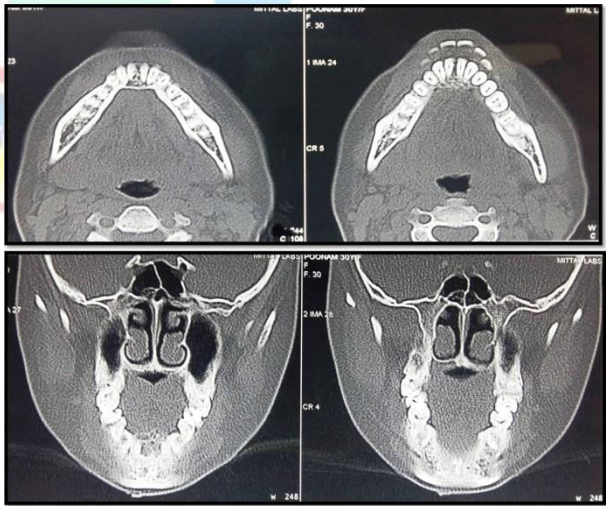

Figure 3:- CT images axial and coronal sections.

The differential diagnosis included central giant cell granuloma, focal cement-osseous dysplasia, cemento-ossifying fibroma. An incisional biopsy was performed under local anaesthesia. Histologically, irregular odontogenic islands with a stretched-out 'kite-tail' appearance were seen in a dense desmoplastic stroma. Tumor elements were present between bone trabeculae. The peripheral layer of the epithelial islands and the inner core were made up of flattened cells and spindle-

shaped, respectively. Collagen fibers of the stroma stained by van Gieson were demonstrated desmoplasia (Figure 4).

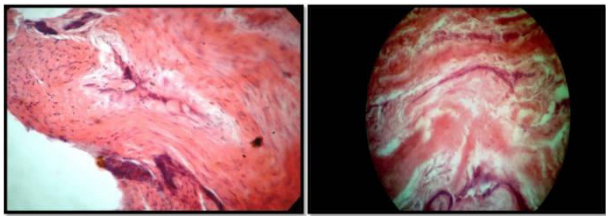

Figure 4:- Histological picture of desmoplastic ameloblastoma.

On the basis of clinicopathological correlation, final diagnois of desmoplastic ameloblastoma was put forth and patient was referred to department of Oral and Maxillofacial surgery for surgical management.

DISCUSSION

Ameloblastoma is a benign epithelial odontogenic tumor of jaw that persists as a slow growing, painless swelling, causing expansion or perforation of the cortical bones and infiltration of soft tissues, occurring more frequently in mandibular posterior region. At initial stages, lesions are commonly asymptomatic. Although the majority of the tumours of jaw originate from within the maxilla or mandible, but they can be peripheral sometimes.[1,2] Radiographically, ameloblastoma presented as an expansile, radiolucent, multiloculated cystic lesion, with a characteristic "soap bubble" or "honey-coomb" appearance. In some also noticed cystic areas of low attenuation with scattered isoattenuating regions, representing soft-tissue components. Displaced and resorption of the roots of adjacent teeth is common and in more aggressive lesions associated teeth may be mobile.[9,10] In literature, there are seven histological variants of ameloblastoma: follicular, plexiform, acanthomatous, granular cell, desmoplastic, basal cell and unicystic variant, with the first two being the most common.[5] The different histological variants significantly do not alter the treatment plan except for unicystic and peripheral types, which can be treated by enucleation and curettage. The multicystic ameloblastoma has a recurrence rate up to 50% during the first 5 years postoperatively, so long term follow up is must.[3,4,5] DA is a rare tumor, which, according to an English literature review carried out by Sun et al. in 2009, can be found in 115 cases. DA has specific clinical and histological features. It has high predilection during 4th to 5th decades, with equal frequency between both sexes. It is commonly found in anterior region of jaws. As reported in literature, the present case was also found in a young male located in the anterior region of the mandible, presenting painless swelling, lingual expansion more as compared to labial. The DA differs from the solid/multicystic ameloblastomas, that are commonly found in mandibular molar/ramus regions.[6,7,10]

In present case, we cannot determine the exact extent and size of aggressive lesions on conventional radiographs like IOPA, OPG; therefore CT was done to know the exact extent and size of lesion. The extensions of the lesions as revealed by CT scan were comparatively larger signifying the importance of CT scan in such cases as conventional radiographs like OPG may underestimate the size and extent of lesion leading to inappropriate management. Later incisional biopsies were performed under LA. Clinico-radiographic information coupled with histopathological information, confirmed the diagnosis and will allow the selection of the best individual therapeutic approaches, increasing the treatment outcome in patients diagnosed with this tumor.

CONCLUSION

Computer tomography has been proved as a boon in diagnosis of jaw lesions. The advent of 3-D aspect of CT in knowing exact size and extent of lesion has added additional advantage.

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