AMELOBLASTIC CARCINOMA – A CLINICORADIOGRAPHIC DILEMMA: RARE CASE REPORT

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Abstract:
Owing to the rarity of ameloblastic carcinoma, little is known about this entity in young patients. Herewith we present a case of young male patient who reported with an extraoral swelling on left side of the lower jaw since 1 year. Radiographically it showed a definite osteolytic lesion involving the complete ramus of mandible along with impacted third molar germ fortuitously detected. By considering the clinicoradiographic findings biopsy confirmed Ameloblastic Carcinoma which is a rare entity in young patients.
Key words: Ameloblastic carcinoma, Osteolytic Lesion.

Introduction

Odontogenic carcinomas are the primary epithelial malignant tumours of the jaws which are poorlydifferentiated with little or no similarity to any of the odontogenic apparatus.[1]Ameloblastomas, representing 1% of all jaw tumours are benign, but locally aggressive odontogenic epithelial neoplasms that may rarely degenerate into a "malignant" disease with recurrence and metastasis.[2] The ameloblastic carcinomas are more aggressively than its benign counterpart exhibiting rapid growth, perforation of the cortex, and painful swelling.[3]Two thirds of these tumors arise from the mandible while one third originate in the maxilla.[4]
The clinical and radiological feature most commonly depicts ameloblastoma but ameloblastic carcinoma can be provisionally suspected if there is a sudden increase in the size of the swelling, paraesthesia and metastatic lymph node involvement.[3,5]

Case Report

A 14 years boy reported to the outpatient department of Oral medicine and radiologywith the chief complaint of swelling on his left side of the face since 1 year. The swelling was associated withmild parasthesiabut no pain.
On extraoral examination, facial asymmetry was seen due to the swelling on the left side of the face which was extending from infraorbital margin upto the lower border of the mandible supero-inferiorly andanteroposteriorly from theala of nose to the angle of the mandible. No overlying changes of skin were noted. On palpation the swelling was mildly tender, hard in consistency, non-movable and non- compressible (Fig. 1).

Figure 1: Profile view showing facial symmetry due to swelling on left side of the face

Intraoral examination revealed clinically missing 37 with an exophytic ulcerative growth of overlying alveolar mucosa which was enlarged, erythematous, soft and tender on palpation. Mild, firm expansion of buccalcortical plate was present in relation to 36, 37region along with paresthesia. The clinical presentation and patients age suggested a provisional diagnosis of dentigerous cyst associated with missing 37(Fig. 2).

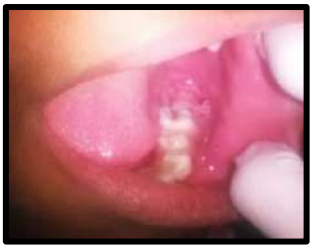

Figure 2: Intraoral view showing exophytic ulcerated growth

The panoramic radiograph revealed a large unilocularradiolucency extending from the mesial aspect of the 36 to the sigmoid notch involving anterior border of the ramus, condyle and coronoid process of left side of the mandible. Developing 37 appeared to be submerged and floating distal to 36.Toothbud of 38 was pushed supero-posteriorly towards the ramus of mandible. Thinning of the cortical outline in relation to the inferior cortex & anterior & posterior border of the mandible was evident(Fig. 3).

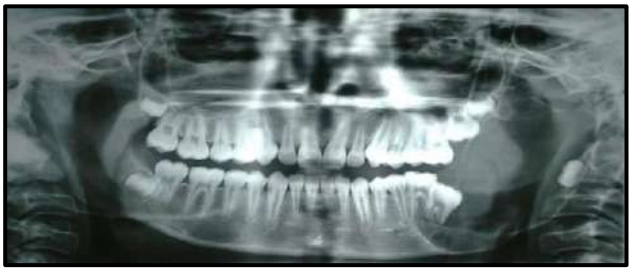

Figure 3: Panoramic Radiograph showing unilocular radiolucency irt Body & Ramus of mandible with unerupted 37

3D reformatted Computed Tomography images showed cortical thinning and perforation of thebuccal cortex of body & ramus of the mandible(Fig. 4).

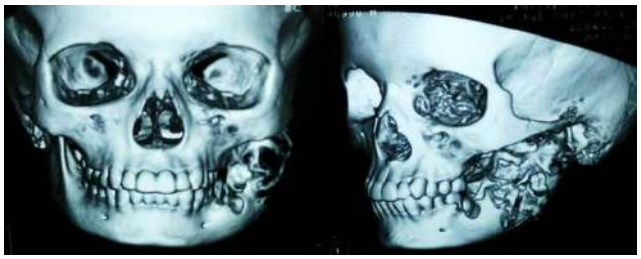

Figure 4: 3D Recontructed images showing expansion, thinning & perforation of the buccal cortical plates in the region of body & ramus of mandible

An incisional biopsy was performed which showed anastomosing cord of odontogenic epithelium with basilar hyperplasia and altered nucleo cytoplasm ratio bounded by amleloblasts like cells. A histopathological diagnosis ofamleoblastic carcinoma was confirmed.

Discussion

In 1983, Shafer introduced the term ameloblastic carcinoma to describe ameloblastomas in which there had been histologic malignant transformation.[6]In 2007 WHO has defined it as a rareodontogenic malignancy that combines the histologicalfeatures of ameloblastoma with cytological atypia, evenin the absence of metastases.[1]Ameloblastic carcinoma occurs in a wide range of age groups, but the mean age of 30.1 years and no apparent sex predilection is in agreement with that reported for ameloblastomas with our case occurring in a very young child i.e. 14 year old male patient.The most commonly involved area is the posterior portion of the mandible. Involvement of the maxilla by ameloblastic carcinoma seems to be less frequent than that of the mandible, which was in accordance with our case involving posterior mandibular region distal to 36.[7]

The tumor may metastasize and histopathologic features of malignancy may appear in the primary lesion, metastasis or both. Clinically rapid enlargement of the swelling along with the ulcerartion, bleeding, pain, paresthesia and trismus are the most common manifestations. Malocclusion, periodontal diseases, tooth mobility have also been reported. In our case there was paresthesia along with ulcerartion, exophytic overgrowth in relation to alveolar mucosa distal to 36 region with unerupted 37.

Most of the cases which are reported as Ameloblastic Carcinoma arise as de novo, which was the most likely etiology in our case as there was no history of any surgical intervention. However in some cases, recurrently occurring benignameloblastomahave developed into malignant phenotype.[8]

Among the differential diagnosis, metastatic carcinomas mimicking ameloblastic carcinomas and primary intraosseous carcinomas are the importatnt ones. Its rarity and unusual behaviour turns the prognosis more difficult. The management of Ameloblastic Carcinoma is controversial, but the recommended is presurgical radiotherapy and chemotherapy followed by jaw resection with meticulous follow-up to rule out recurrences.[9]

Although Ameloblastic Carcinoma is not an entity which can be diagnosed clinically or radiographically or both, parameters like rapid growth, soft tissue changes can alert a clinician for the suspicion of malignancy.

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