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Case Report

Dentistry Section

Ameloblastic Carcinoma: A Case Report

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ABSTRACT

Ameloblastic carcinoma is a rare malignant lesion with characteristic histologic features and behavior that dictates more aggressive surgical approach than that of a simple ameloblastoma. Here we present a case of ameloblastic carcinoma of the mandible in a 30-year-old male patient with a clinical course of typical aggressiveness and extensive local destruction.

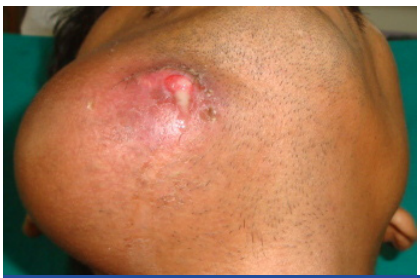
Keywords: Metastases, Odontogenic carcinoma, Surgical resection

CASE REPORT

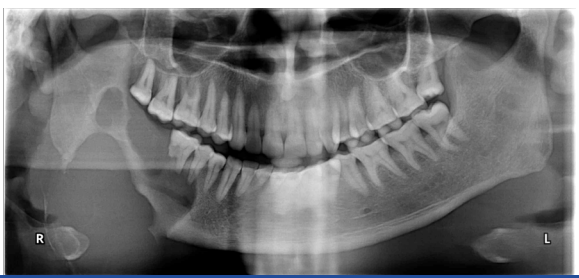
A 30-year-old male patient reported to the Department of Oral medicine and Radiology, Institute of Dental Sciences, Bareilly, UP with a chief complaint of swelling on right lower third of face since six months. On examination a swelling was present over the right angle ramus region of mandible extending from preauricular area to mid of right cheek anteroposteriorly and 1 cm away from corner of the mouth to the base of mandible superoinferiorly. Swelling was approximately 5x3 cm in size and roughly oval in shape. The skin over swelling was normal in colour and texture with a presence of a extraoral draining sinus. On palpation swelling was mildly tender, hard in consistency, smooth, with well-defined margins with local rise in temperature. Intraorally a solitary ill defined swelling was present on the right side of posterior mandibular tooth region extending from mesial surface of mandibular right second premolar to retromolar pad area [Table/Fig-1]. Overlying mucosa was reddish pink in colour, rough in texture. On palpation mildly tender, firm to hard in consistency. On the basis of history and clinical examination provisional diagnosis of ameleoblastoma was given. Differential diagnosis of odontogenic myxoma was considered. Patient was subjected to routine radiographic examination. Mandibular occlusal radiograph showed loss of cortical plate. Orthopantomograph revealed a well defined multilocular radioluscency extending from mesial aspect of right mandibular second premolar to ramus area [Table/Fig-2]. OPG also revealed loss of lower border of mandible with resorption of both mesial and distal roots with respect to right mandibular first molar. Excisional biopsy was done which showed follicles of odontogenic epithelium lined peripherally by tall columnar cells and central stellate reticulum like cells within a scanty connective stroma [Table/Fig-3]. The surface showed parakeratinized stratified squammous epithithelium of gingiva, features suggestive of ameloblastic carcinoma .So, a final diagnosis of ameleoblastic carcinoma was made. In the treatment apron incision was given along with supramyohyoid neck dissection and right side hemimandilectomy was done. Level 1,2 and 3 lymph nodes were removed followed by primary closure.

DISCUSSION

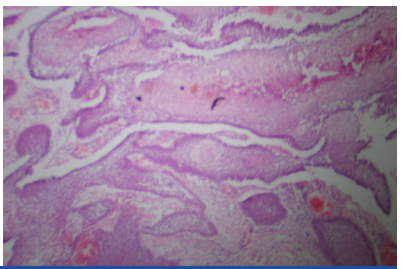
Ameloblastic carcinoma (AC) is an extremely rare odontogenic epithelial malignant tumor, only 70 cases were reported in the English literature between 1984–2011 [1]. The typical ameloblastoma begins as a slowly destructive asymptomatic and intraosseous expansion, being a lesion that tends to expand and infiltrate, rather than perforate the bone are clinical characteristics that contribute to the possible identification of ameloblastomas whereas clinically, ameloblastic carcinomas are more aggressive than most typical ameloblastomas. Perforation of the cortical plate, extension into surrounding soft tissue, numerous recurrent lesions and metastasis, usually to cervical lymph nodes, can be associated with ameloblastic carcinomas [2]. There is a male predominance; the male/female ratio varies according to authors between 1.4/1–2.4:1 [3]. Ameloblastic carcinoma and ameloblastoma can have a similar radiographical appearance; however, certain imaging features may aid the diagnostic distinction [4]. Radiographically both lesions can be radiolucent, either unilocular or multilocular, which generally has a honeycomb appearance with tooth root resorption. Both lesions often have distinct borders, slight marginal sclerosis without periosteal new bone formation, loss of lamina dura, resorption of the tooth apex and tooth displacement except for the presence of focal radiopacity, apparently reflecting dystrophic calcification in ameloblastic carcinoma [1, 3, 5]. In the recent WHO classification, a distinction was made between ameloblastoma, malignant ameloblastoma and ameloblastic carcinoma [6]. Malignant ameloblastoma differs from ameloblastoma due to the presence of metastases. They both have the same benign histology [7]. Ameloblastic carcinoma has malignant cytologic features regardless of the presence of metastases. In ameloblastoma, metastases are uncommon. When they occur, lungs are involved in over 80% of cases [8]. Surgical resection is the treatment of choice. En bloc removal with 1–2 cm of normal bone margin is the safest surgical modality to ensure disease-free survival. This method has resulted in local recurrence rates of less than 15% [9]. There is controversy regarding radiotherapy of ameloblastoma and it is considered



[Table/Fig-1]: Extraoral swelling with pus discharge



[Table/Fig-2]: Orthopantomogram



[Table/Fig-3]: Histopathological picture

radioresistant tumour [1]. ACs can recur locally 0.5–11 years after definitive therapy. Distant metastasis is usually fatal. The most common site for a distant metastasis is the lung, followed by bone, liver, and brain [10].

CONCLUSION

Ameloblastoma shows a variety of histologic and biologic behavior ranging from benign to frank malignancy. Although AC is rare, it is important to rule it out in patients presenting with toothache or mobile teeth in association with persistent jaw swelling, pain and rapid growth through prompt radiological and histopathologic investigations. Its diagnosis is therefore very important to give proper treatment for better prognosis.

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