CASE REPORT

Ameloblastic Carcinoma of Maxillary Sinus

Mariyye Panahi Borojeni[1], Mohammadjavad Etesami[2]

1- Oral And Maxillofacial Radiologist, Kermanshah University of Medical Science, Kermanshah, Iran. 2- Endodontist, Kermanshah university of medical science, Kermanshah, Iran.

Correspondence to:
Dr. Mohammadjavad Etesami, Kermanshah university of medical science, Kermanshah, Iran.
Submit Manuscript : submissions@ijdmr.com
www.ijdmr.com

ABSTRACT

Ameloblastic carcinoma is a rare malignant lesion with characteristic histopathologic feature, while sometime this feature is vague, tumoral cells appear such as ameloblastoma but they show cytologic atypia.in radiographic appearance behave similar to typical ameloblastoma.it may present as a cystic lesion with benign clinical features or as a large, ulceration, significant bone destruction and loosened tooth. Lesion often found after an incisional biopsy unexpectedly. Because of their aggressive behavior (extension to surrounding soft tissue, extensive bone destruction, lymph node involvement and metastasis) lesion require wide excision is treatment of choice. Regional lymph node dissection, radiotheraphy and chemotherapy have restricted value for treatment. Close periodic evaluation of patient is obligatory. We report a case of ameloblastic carsinoma of maxilla in 46-yera-old male patient, including radiographic, clinical, pathologic features. Clinical and radiographic view mimic ameloblastoma, while in histologic sections revealed cytologic atypia associated by ameloblastic carsinoma. Patient scheduled for preoperative radiotherapy before radical surgery.

KEYWORDS: Ameloblastic Carcinoma, Ameloblastoma,Maxill,Case Report

INTRODUCTION

Tumor of lower orofacial region may be benign or malignant. Most primary malignant lesion concludes with sarcoma, carsinoma of salivary glands, especially squamous cell carsinoma and melanoms. Breast, lung, abdominal organs and prostate cancers can metastasize to lower face structural anatomy.[1,2] Benign tumor may have odontogenic or non-odontogenic source, ameloblastoma reveal 1% of all jaw tumor.[3,4] Ameloblastomas are sub classified as a common odontogenic tumor with significant clinical view.[5] Ameloblastoma is an odontogenic tumor that arises from dental embryonic remnant such as epithelium of cyst, dental lamina or enamel organ.[6] In 1984 Slootweg And Muller suggested a classification system for malignant tumor with feature of ameloblastoma: type 1: primary intraosseous carsinoma ex odontogenic cyst type 2:a:;malignant ameloblastoma b:ameloblastic carsinoma, arising de novo, ex ameloblastoma or ex odontogenic cyst type 3:PIOC arising de novo.[6] Carsinoma show the presence of both histopathologic feature of ameloblastoma and carsinoma. Tumor may metastasize, histologic features of malignancy may be observed in both primary tumor and metastasize.[4] Malignant ameloblastoma convey lesion that metastasizes, however both metastatic lesion and primary tumor have benign histologic feature.[6,3] The incidence of carcinoma is greater than malignant ameloblastoma.[6] Ameloblastic carcinoma is a rare odontogenic epithelium malignant tumor, we have reported 70 cases from 1984-2011.[4] When revealed as an aggressive appearance, it may be diagnosed as a malignant tumor, but in cases without an aggressive feature, it is difficult to distinguish ameloblastic carsinoma from ameloblastoma.[7] In clinical view it may mimic ameloblastoma, hard expansile mass, with displaced and mobile tooth and normal overlying mucosa, however it may be seen as rapid growing mass, ulceration, bleeding, fistula, pain and mobility. Tumor metastasizes to lung in most cases.[3] Despite area that resemble ameloblastoma, ameloblastic carsinoma shows changed patterns and cytologic view. The presence of sheets, island,or trabeculae of epithelium and rare presence of stellate reticulum-like lesion should alert the pathologist for possibility of ameloblastic carsinoma. Round to spindle shaped epithelial cells with no differentiation suggest malignant process.[8] Other features such as high mitotic index, necrosis, neural and vascular invasion, cytological atypia calcification and hyperchromatism observed too.[8] Presence of many clear cells suggest ameloblastic carsinoma (figure 1A,B).[8] In radiographic view represented well-defined, maybe corticated even scalloped border radiolucency, usually have unilocular appearance, maybe multilocular(soap bubble and honey comb). It have predominancy in mandible in molar and premolar region. Sometime lesion destroy cortical border and invade to adjacent soft tissue. Effect in surrounding structure consist of tooth bodily displacement, root resorption similar to benign tumor, lamina dura and cortical boundary destruction, mandibular canal displacement even erosion. Sign of osseous destruction similar to ameloblastoma can be found in ameloblastic carsinoma, these lytic phenomena may be assessed by CT and MRI imaging (figure

How to cite this article:
Borojeni MP, Etesami M. Ameloblastic Carsinoma of Maxillary Sinus. Int J Dent Med Res 2015;1(5):73-75.

2A,B).[10] Main differential diagnosis ameloblastoma, odontogenic keratocyst, odontogenic myxoma, central muco-epidermoid carsinoma (indistinguishable in radiography), carsinoma in dental cyst and central giant cell tumor.[3] Wide local excision is treatment choice, regional lymph node dissection performed too.[6] radiotherapy and chemotherapy have limited value, low sensitivity, due to low sensitivity prognosis is poor.[3,4,6] Certain authors have suggested surgery plus radiotherapy, while other have doubt about these combination. There are few report on chemotherapy effect, but preoperative radiotherapy suggested to diminish tumor size.[9] Tumor are prone to recur that justify a long follow up.[10] This study reports a case of ameloblastic carcinoma. We present clinical, radiographic and histopathologic feature of ameloblastic carsinoma.

CASE REPORT

A 46 year old male was referred to Oral and Maxillofacial Surgury Center, Isfahan University,Faculty of Dentistry, Isfahan, Iran for evaluating a rapid growing swelling. Intraoral examination revealed lesion in right hard palate with smooth and regular contour, in alveolar mucosa of left maxilla and in right vestibule with papillomatosis shape. Patient had a history of two surgeries (Mucoepidermoid Carcinoma). No enlarged lymph node were palpable. Plain radiography and CT scans were performed. In coronal CT(soft tissue algoritm) a large expansible corticated radiolucent lesion in right side of maxilla was found. (Fig No.1).

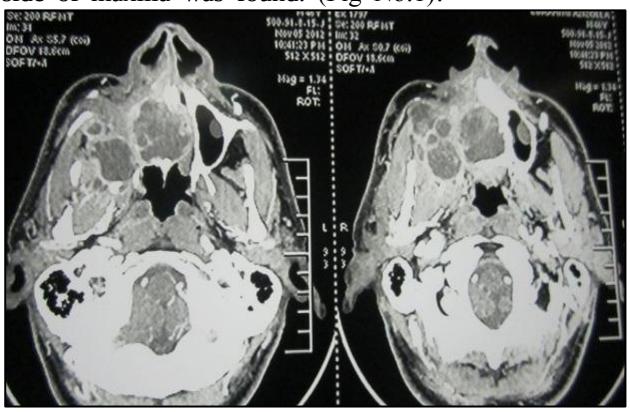

Fig No.1: CT Scan View

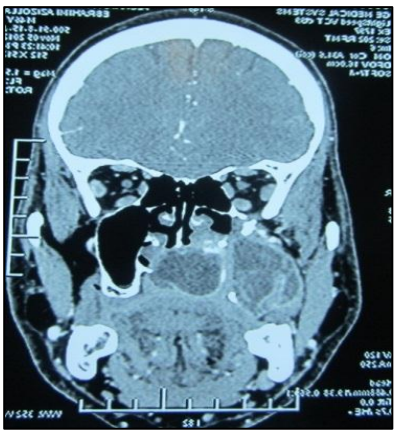

Fig No.2: CT Scan View

Lesion occupied a large portion of right maxillary sinus (radiographic report suggested sinus was filled with soft tissue), lesion involved right orbit (with destruction of orbital floor), right maxillary alveolus, right and left nasal cavity. Destruction of all maxillary sinus wall was seen. Lesion crossed the midline. Right OMC was closed, but left OMC was opened. Nasal septum was involved too. Lesion has extended posteriorly until nasopharynx and pterygoid plate. In axial CT(soft tissue level) a large corticated lucency in right maxillary side with crossing the midline was seen (Fig No.2). Facial asymmetry was observed too. Zygomatic bone was intact. Left maxillary sinus retention cyst was seen. Lesion had multilocular appearance in some areas. Based on these finding the diagnosis was recurrence of a tumor in right maxillary sinus, with aggresive behaviour. Diagnoses of ameloblastoma involving the right maxilla was made. Histopathologic view showed fragmentation of ameloblastic odontogenic epithelium occasionally arranged in pallisades. The most central cells were arranged more loosely resembling the stellate reticulum.(Fig No 3,4). Metaplasia also was noted. Epithelial cell showed neoplastic prolifration. Certain part of sample resembled feature of ameloblastoma, however the cytology of some part confirmed ameloblastic carsinoma. Patient was scheduled for surgury, including right maxillectomy and radiotherapy. The patient was followed every three months. After one year there was no evidence of recurrence.

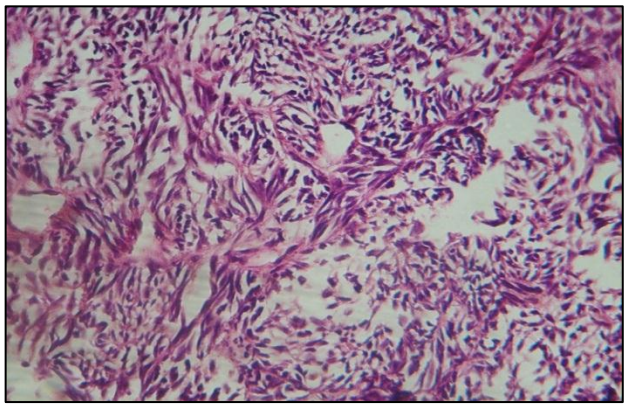

Fig No.3: Histopathological Picture

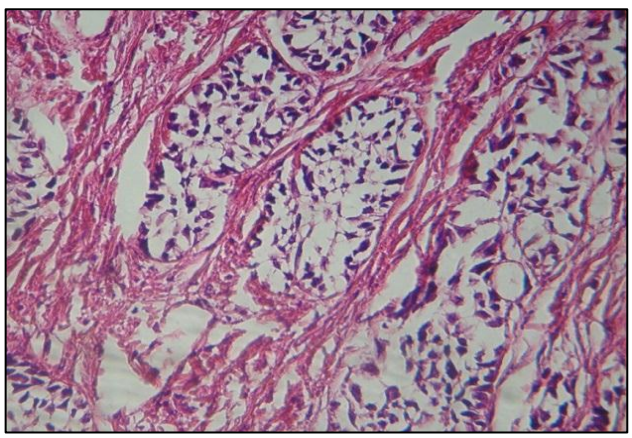

Fig No.4: Histopathological Picture

DISCUSSION

Ameloblastic carsinoma is a rare, malignant neoplasm with poor prognosis and predominancy in mandible. The most common symptom is a rapidly processing, painful swelling.[10,11,12] Clinically, these lesions are more aggressive than typical ameloblastoma. Perforation of cortical plate, invasion to adjacent soft tissue, recurrent lesion, metastasis usually to cervical lymph node, are associated with ameloblastic carsinoma.[10] In this case cervical lymph nodes were non palpable. The patient had no metastatic lesion at the time of diagnosis. In this case carsinoma occurred in right maxilla, extending across to left side. While one third originate in maxilla, most cases involve mandible.[3,10,11,12] The male to female ratio is 5:3 with majority of cases occurring in patient aged 50-60.[13] The present case involved a 46- year-old male. The patient in this case presented facial asymmetry, rapid growth, pain. The radiographic appearance of ameloblastic carsinoma was similar to ameloblastoma. In majority of cases a radiolucent intraosseous lesion is revealed[9,10] as was showed in this case. In this case radiographic appearance was consistent with ameloblastoma. Differential diagnosis was carcinoma arising in the lining of an odontogenic cyst. The epithelium of squamous odontogenic tumor lacked any cytological evidence of malignant disease.[6] Basal cell carsinoma, primary intra-alveolar epidermoid carsinoma had to be considered.[8] The term of ameloblastic carsinoma may be applied for this case with histologic feature of malignancy such as pleomorphism along with indisputable feature of typical ameloblastoma. It accepted that maxillary ameloblastoma should be treated as radically as possible due to spongy architecture of maxilla.[14] In this case preoperative radiotherapy was started to decrease the tumor size prior to radical surgury. A systematic evaluation of the chest by periodic imaging is recommended due to lung metastasis.[15] We had no metastatic report in this case.

CONCLUSION

Ameloblastic carsinoma is a very rare malignant odontogenic tumor with characteristic histopathologic feature. Diagnoses at early stage and close periodic evaluation for metastasis and potential to pulmonary involvement are necessary

REFERENCES

1. Parkins GE, Armah G, Ampofo P.Tumours and tumour-like lesions of the lower face at Korle Bu Teaching Hospital, Ghana – an eight year study. World J Surg Oncol.2007;5:48.
2. Theodorou DJ, Theodorou SJ, Sartoris DJ.Primary nonodontogenic tumors of the jawbones: an overview of tumors of the jawbones: an overview of essential radiographic findings.Clin Imaging,.2003; 27(1):59-70.
3. White SC,Pharoah MJ.Oral Radiology:Principles and interpretation.6th ed.st louis:Mosby com.2009:356.
4. Horvath A,Horvath E,Popsor S.Mandibular ameloblastic carsinoma in a young patient.Rome J Morphol Embryol.2012;53(1):179-183.
5. Neville B,damm D,Allen C,Bouqot J.Oral and maxillofacial pathology 3th ed.st Louis: Missouri.2009.chapter 15.p:683-6.
6. Avon SL,Mccomb J,Clokie C.Ameloblastic carsinoma:Case report and literature review.J Can Dent Assoc.2003;69(9):573-6.
7. Franca DCC,Aguiar SMHCA,Goiato MC.Ameloblastic carcinoma of the maxilla:A case report,Oncology letter.2012;4:1297-1300.
8. Angiero F,Borloni R,Macchi M,Stefani M,A meloblastic carcinoma of the maxillary sinus.Anticancer Research.2008;28:3847-3854.
9. Nai GA and Grosso RN: Fine-needle aspiration biopsy of ameloblastic carcinoma of the mandible: a case report. Braz Dent J.2011; 22: 254-257.
10. Benlyazid A, Lacroix-Triki M, Aziza R, Gomez-Brouchet A, Guichard M and Sarini J. Ameloblastic carcinoma of the maxilla: case report and review of the literature.Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2007;104: 17-24.
11. Pundir S, Saxena S, Rathod V and Aggrawal P. Ameloblastic carcinoma: Secondary dedifferentiated carcinoma of the mandible - Report of a rare entity with a brief review. J Oral Maxillofac Pathol .2011; 15: 201-204.
12. Ozlugedik S, Ozcan M, Basturk O, Deren O, Kaptanoglu E, Adanali G and Unal A.Ameloblastic carcinoma arising from anterior skull base. Skull Base.2005; 15: 269-272.
13. Akrish S, Buchner A, Shoshani Y, Vered M and Dayan D: Ameloblastic carcinoma.report of a new case, literature review and comparison to ameloblastoma.J Oral Maxillofac Surg.2006; 65: 777-783.
14. Kruse ALD, Zwahlen RA and Grätz KW.New classification of maxillary ameloblastic carcinoma based on an evidence-based literature review over the last 60 years. Head Neck Oncol.2009; 1: 31.
15. Matsuzaki H, Katase N, Hara M, Asaumi J, Yanagi Y, Unetsubo T,et al.Ameloblastic carcinoma: a case report with radiological features of computed tomography and magnetic resonance imaging

Source of Support: Nil
Conflict of Interest: Nil