Osteosarcoma of Maxilla

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ABSTRACT

Osteosarcoma is the primary malignancy of bone. Osteosarcoma of the jaw (JOS) is very rarely encountered in the oral cavity compared to osteosarcomas of long bones. Therefore, general dentist should be aware of the initial clinical and radiographic findings. The chief complaint of patients with long bone osteosarcoma is pain, whereas patients with JOS usually have painless swelling as the first sign. Lack of pain may result in delay of diagnosis. This paper documents one such case of 40-year-old female with an expansile lesion of maxilla, which was completely asymptomatic and later diagnosed as osteosarcoma.

Keywords: Osteosarcoma, Maxilla, Expansile lesion.

How to cite this article: Praveena NM, Maragathavalli G. Osteosarcoma of Maxilla. J Indian Aca Oral Med Radiol 2012;24(3):236-238.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Osteosarcoma is a common malignant tumor of bone, characterized by production of osteoid tissue, with a reported incidence of 1:100,000 per year.1 Though osteosarcomas of head and neck is relatively rare tumor and accounts for only 10% of all osteosarcomas.2,3 The jaw is the most common site. The mean age of occurrence is in the fourth decade. The incidence of tumors in the maxilla favors the alveolar ridge and sinus, whereas mandibular lesions are most common in the body of the mandible. Previous radiation therapy and Paget’s disease of bone are known predisposing factors, especially in patients older than 40.4 Radiographic evaluation is important in diagnosis, because clinical symptoms, such as pain, paresthesia, swelling and loose teeth, are not specific.5 Diagnosis by conventional radiography is difficult.6 It has to be supplemented by computed tomography (CT) to know the extent of involvement. The most common histopathologic variant in the jaw is osteoblastic osteosarcoma. Osteosarcoma of the jaw (JOS) differs from osteosarcoma of the long bones in its biological behavior, though the histological features are identical. It presents a lower incidence of metastasis and a better prognosis. Osteosarcomas should always be considered in the differential diagnosis of expansile lesions of jaw.7,8 Early diagnosis and adequate surgical resection are the keys to high survival rates.9

CASE REPORT

A 45-year-old female patient reported to our dental department with a chief complaint of swelling in the right side of the face (Fig. 1) with a corresponding swelling inside the oral cavity (Fig. 2) for the past 6 months. History revealed that the swelling started 5 months ago in the right side of the face in the maxillary region spontaneously. It was completely painless. The swelling gradually increased in size in the last 5 months and has attained the present size, rapidly increasing in the last 2 months. There was no significant dental, medical or family history. On inspection it was a single diffuse extraoral swelling present in the right side maxillary region. The swelling was roughly oval in shape measuring about 4 × 5 cm. The swelling extended superiorly to the lower eyelid, causing closure of the right eye. Inferiorly, it extended 2 cm above the corner of the mouth. It extended anteriorly up to the alae of the nose, posteriorly 4 cm in front of the ear with obliteration of the nasolabial fold. The surface of swelling was smooth. There was no evidence of ulceration or sinus formation. There were no visible pulsations or pigmentation seen.

The swelling was not tender on palpation, though there was paresthesia on palpating the skin over the swelling. The swelling was not fluctuant. It was not compressible or reducible.

The corresponding intraoral swelling was found in the right alveolar ridge, extending in the premolar-molar region obliterating the right upper buccal sulcus. The size of swelling was approximately 4 × 4 cm. The edges of the swelling were ill-defined. The color of mucosa appears

Fig. 1: Extraoral swelling
Osteosarcoma of Maxilla

by adjuvant chemotherapy. The follow-up in the next 1 year showed no recurrence.

DISCUSSION

Osteosarcoma being a rare presentation in the oral cavity can easily be misdiagnosed. Therefore, small studies and case reports are an opportunity to report and discuss issues of clinical, radiological and diagnostic significance. The chief complaint of patients with long bone osteosarcoma is pain, whereas painless swelling is commonly seen in patients with JOS. The painless condition has been the cause for negligence by the patient, as seen in our case. A review of the literature showed that 85 to 95.5% of patients with JOS had swelling, either painful (45.8-50%) or painless (35-49.7%). Other complaints include paresthesia (in 21.2% of cases), displacement of teeth, epistaxis, eye problems, nasal obstruction and weight loss. Most of these clinical symptoms were seen in the reported patient. The differential diagnosis of JOS should include chondrosarcoma, Ewing’s sarcoma, bone metastasis fibrous dysplasia, osteomyelitis and even lesions that do not usually affect the jaw bones as fibrosarcoma, leiomyosarcoma, rhabdomyosarcoma.
The diagnosis in the above case was missed in the first few months, mistaken for inflammatory swelling as it was asymptomatic and radiographs only showed PDL space widening. At a later stage, when the patient reported to our department, the lesion had already infiltrated into the antrum. Sunburst appearance was noted in conventional radiographs and CT, when osteosarcoma was suspected, though a differential diagnosis of central giant cell granuloma, fibrosarcoma was considered. We found CT to be much superior to conventional radiography in identifying bone erosion; soft tissue infiltration and neoplastic tissue ossification. Bone biopsies of such lesions with expansion of cortical plates should include medullary bone in order to avoid diagnostic errors. The photomicrograph in the above case showed immature osteoblasts confirming the diagnosis. The accepted treatment for JOS is radical surgery and in the mandible, hemimandibulectomy is commonly performed. In case of cervical lymph node involvement, neck dissection must be considered. Babazade et al have reported that survival rates of patients with craniofacial osteosarcoma significantly improve with chemotherapy. The present case was treated with surgery and chemotherapy.

CONCLUSION

Osteosarcoma should always be considered in the differential diagnosis of expansile lesions of the jaws. Pain may not always be an associated feature. Pain associated can be misinterpreted as odontogenic in origin, resulting in delay in obtaining the final diagnosis. Movement of teeth in the area of a lesion suggests a neoplastic process. Radiographic findings are not always pathognomonic; the ‘sunburst’ pattern may not always be seen. All exophytic rapidly growing lesions should receive clinical and radiographic follow-up until remission. Sufficient sample of biopsy is a must for final diagnosis. For proper management, emphasis should be laid on the aggressiveness of this lesion which warrants an early identification and diagnosis followed by prompt treatment.

REFERENCES


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