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CASE REPORT OF A RARE JAW TUMOUR ; ITS BASIC LINE OF DIAGNOSIS

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ABSTRACT

Sarcoma itself is a rare entity in intraoral region and osteosarcoma is not an exception from this data. Here we are presenting a case of osteosarcoma in a 31 year old newly married young male which was simply presented as toothache and so that primarily misdiagnosed as dental infection. With a battery of investigations like Orthopentogram, FNA, Histopathological Examination, CT scan etc, ultimately we reached our diagnosis & an oncological plan was made to treat him with multiple neo-adjuvant chemotherapy followed by radical surgical resection along with a margin of normal surrounding tissue, and chemotherapy.

KEYWORDS: **Osteosarcoma, Orthopentogram, Fine needle aspiration cytology (FNA).**

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INTRODUCTION

Though Osteosarcoma is the most common non-hematopoietic primary malignant neoplasm of bone, but according to its location and age incidence it is a rare reportable case from an oncological point of view. Sarcoma itself is a rare entity in intraoral region, lies approximately1% of all head neck cancers and only 0.14% of intraoral malignancies.[1]Except its usual location in femur, tibia etc. jaw is another unusual site which is involved by osteosarcoma. Our case is also unique in its presentation as because pain in lower jaw primarily misdiagnosed as toothache by local dentist for a long time and immediate orthopentogram also cannot rule out this diagnosis.

CASE REPORT

A 31 years newly married young male presented our outpatient department with a chief complaint of huge ulcerated mass lesion and pain in oral cavity (mainly lower jaw) for last one month .Patient told that he was suffering from pain in that region for more than two months without any swelling. So, earlier he was under over the counter pain relieving medications. After the appearance of swelling when he faced difficulty in chewing food due to severe trismus, he came in contact with a Dental Surgeon. According to the attending doctor, a diffuse swelling on the right side extending antero-posteriorly from inferior to right tragus up to lower border of mandible near about 5x 7 cms huge firm to hard ,tender lump with raised local temperature. The overlying skin appeared to be slightly tensed. Left and right submandibular lymph nodes were palpable, soft to firm, mobile and non-tender. Intra-oral examination revealed a well-defined swelling along the mandibular arch, extending from the premolar to the retromolar region on right side, causing obliteration of the buccal vestibule (Figure 1).The overlying mucosa was angry looking with bleed to touch. Orthopentogram revealed (Figure2) that tooth was missing at lower 7th and apical cyst in lower 6th position with normal Temporomandibular joint. Routine investigation showed raised ESR. Immediate FNAC from this lesion guided us to arrange a biopsy from that site without any delay.

Histopathological Staining

Sections stained with Hemotoxylin-Eosin stain revealed a tumor composed of spindle shaped and polygonal cells with hyperchromatic nuclei. The tumor cells showed nuclear pleomorphism and osteoid formation. Tumour giant cells and bizarre hyperchromatic nuclei were present. Overall, features are consistent with osteogenicsarcoma.(Figure 3,4,5).Ultimately a provisional diagnosis of osteosarcoma was made from a list of differential diagnosis like central vascular lesion (hemangioma),cellulitis involving right buccal, vestibular and submandibular space.

(i) Radio-Imaging

The non-contrast multislice spiral CT scan of the mandible and face revealed expansile destructive complex mass lesion involving the body and ramus of right side of mandible with hypo dense to cystic component surrounding it. A referral feedback from oncological setup was multiple neo-adjuvant chemotherapy followed by radical surgical resection along with a margin of normal surrounding tissue, and chemotherapy.

RESULTS

Picture of the Swelling and the Radiological Impression

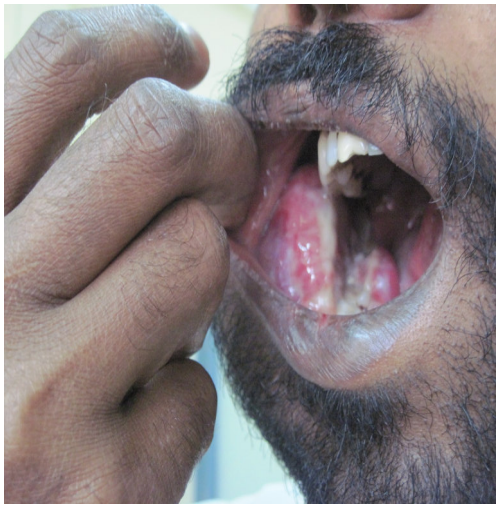

Figure1
Picture showing the mass.

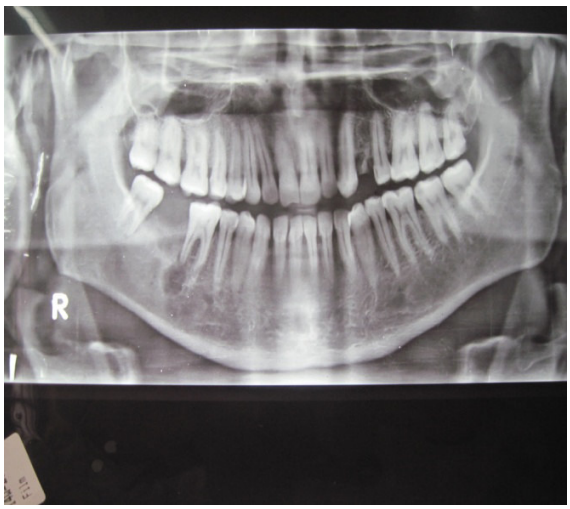

Figure2
Orthopentogram of this patient.

Histology slides

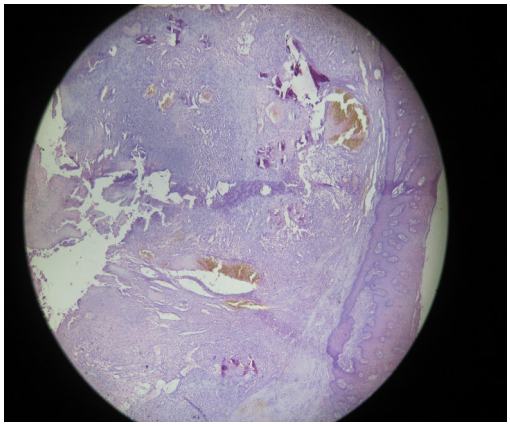

Figure 3
Scanner view of biopsy.(H&E 40X)

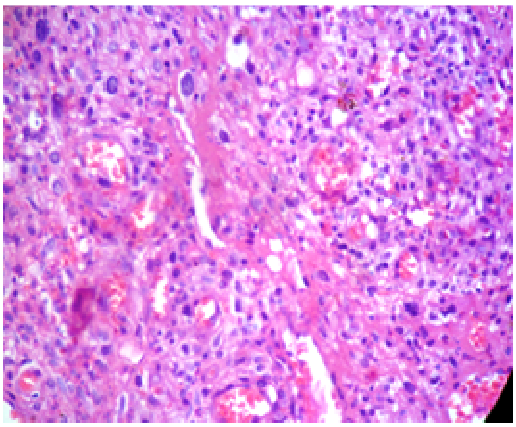

Figure 4
Low power view of tumour mass(H&E100X).

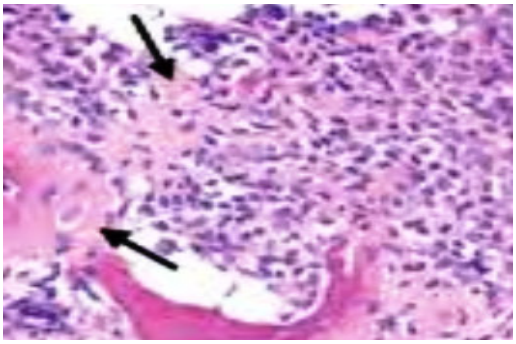

Figure 5
High power view of tumour mass(H&E400X).
(Arrow →indicates malignant cells and osteoid)
SDS PAGE Gel

DISCUSSION

Classically osteosarcoma is a highly malignant bone tumor as because though mostly arising within the bone, but spreading rapidly outwards to the periosteum and surrounding soft tissue. Like our case, Pain is usually the first symptomn, it is dull aching, worse at night with increasing severity. On examination, there may be little to find except local tenderness and after a few days there is a palpable mass, with swollen and inflamed overlying tissue. Males are affected more frequently than female(M:F-1.4:1) usually but in case of jaw frequency is almost equal in both gender.[2,3] In oral cavity most common places of occurrence are the alveolar ridge and the body of maxilla and mandible.[4,5] .Exact cause of osteosarcoma is unknown except few association with environmental factor radiation, genetic predisposition like ,Paget's disease ,Fibrous dysplasia, Enchondromatosis, hereditary multiple exostoses and Retinoblastoma (germ line form) are risk factor [6]which was also missing in our case. In osteosarcoma of jaw roentgenographic early findings is symmetrical widened periodontal membrane space [7] which needs to be excluded from a lot of differential diagnosis. Due to financial limitation we could not perform MRI in this case, so in this respect CT scan helped us to find out extent and made a pre-surgical staging beforehand.[8]Nowadays fine needle aspiration cytology is a very effective diagnostic modality within limited resource, but difficulty may arise in cases of osteosarcoma rich in osteoclast like giant cells which when seen in aspirates a mistaken diagnosis of giant cell tumor may be made in such cases the stroma has to be carefully examined for pleomorphism and presence of osteoid which was meticulously done in our case. Osteoid in osteogenic sarcoma was identified in 63.3% of cases[9].

CONCLUSION

Osteosarcoma of the jaw is usually grade II or III [10]and they are prognostically [11]better than maxillary osteo sarcoma, but as anatomical limitations in the face cause difficulties in achieving complete resection of growth so local recurrence of these lesions are high. Though clinical and radiological data are not always supportive enough to differentiate between calcifying cystic odontogenic tumour and true neoplasm(osteosarcoma),in this regards biopsy and histopathological findings (some features like ghost cell,malignant osteoid,pleomorphic cells,giant cells etc) are helpful.[12]

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