Mandibular Aneurysmal Bone Cyst Associated with Cemento-Ossifying Fibroma – A Case Report

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ABSTRACT

Aneurysmal bone cyst is an uncommon bone lesion which rarely occurs in craniofacial region. Among all the cystic lesions occurring in the jaws, aneurysmal bone cyst is infrequent and it more commonly occurs in the mandible. Most of the cases occur in the first two decades of life, with no gender predilection. Here, we are presenting a case of an aneurysmal bone cyst which occurred in the mandible of a twelve year old female patient.

CASE REPORT

A twelve-year-old female patient came to our Outpatients Department (OPD) with a complaint of swelling and pain in the right lower back tooth region of the jaw since 10 months. Patient also gives a history of trauma 10 months back in that region. A diffuse extra-oral swelling was seen on the right side lower half of the face, which extended anteroposteriorly from corner of mouth to angle of the mandible, which measured around 4cm in size and which extended superoinferiorly from the ala - line to 1cm below the lower border of mandible, which measured about 3cm in size. The skin over the swelling appeared to be slightly stretched and it was in normal colour as that of the surrounding skin. Swelling was found to be firm in consistency and tender on palpation. There was no rise in temperature. No palpable lymph nodes were detected. A diffuse intra-oral swelling was present, which extended superoinferiorly from the marginal gingiva to the depth of the vestibular sulcus, which Obliterated it. Intra oral swelling superoinferiorly measured about 3 cms in size. It extended anteroposteriorly from distal surface of 43 to distal surface of 47 and measured about 4cm in size. The interdental gingiva between 44 and 46 was erythematous. On palpation, swelling was found to be tender and firm, with a tennis ball consistency [Table/Fig-1]. Teeth were firm and vital. Orthopantamograph (OPG) showed a large solitary unilocular radiolucency extending anteroposteriorly from distal aspect of 41 to distal aspect of 47. Superiorly, it extended to the alveolar ridge and inferiorly to right lower border of the mandible. It approximately measured about 7 x 5 cms in size and was surrounded by well-delineated and scalloped borders. Thinning and downward slanting of lower border of mandible and displacement of root of 44 could also be appreciated. [Table/ Fig-2]. Provisionally, lesion was diagnosed as a traumatic bone cyst and clinicoradiographic differential diagnosis included ameloblastoma, central giant cell granuloma or aneurysmal bone cyst. Haematological investigations revealed that all the values were within normal limits. Total lesion was surgically curetted and the specimen was sent to Department of Oral Pathology for making a confirmatory diagnosis. During surgical approach, on entering the lesion, excessive bleeding was encountered. Grossly, lesion showed multiple soft tissue bits along with teeth (44 and 46). A larger bit which was seen on the outer aspect showed fragments of thinned out cortical plate which was adherent to solid soft tissue. Inner aspect showed a chocolate-coloured spongy tissue enclosing multiple blood-filled locules [Table/Fig-3]. Multiple bits were taken for processing. Microscopically, H & E stained tissue sections showed many blood-filled cystic spaces of varying sizes, which were lined by spindle/plump fibroblasts, which were admixed with few giant cells. Intervening connective tissue and the solid areas were highly cellular and vascular, with large areas of haemorrhage, haemosiderin deposits, many scattered trabeculae of immature bone with osteoblastic rimming and focal osteoclastic activity, intermixed with spherical basophilic acellular calcified deposits which resembled cemental masses [Table/Fig-4]. The lesion was finally diagnosed as an aneurysmal bone cyst which was secondary to a cemento-ossifying fibroma.

Keywords: Aneurysmal bone cyst, Pseudocyst, Ossifying fibroma, Cementifying fibroma, Cavernous hemangioma

[Table/Fig-1]: Intra orally 3 x 4 cms sized diffuse swelling was seen on right side of the mandible

[Table/Fig-2]: OPG reveal a radiolucency anteroposteriorly extending from distal portion of 41 to distal root of 47
DISCUSSION

An aneurysmal bone cyst (ABC) is a non-odontogenic, non-epithelial cyst which commonly occurs in long bones and spine [1]. According to Bruce et al., only 2-3% of the cases occur in the head and neck region and among them, 66% of the cases occur in jaws [2]. They commonly occur in the first two decades of life and do not show any gender predilection [3]. As compared to maxilla [2-6] they occur more commonly in the mandible [3,7-10]. Lesions may be asymptomatic or they may be commonly associated with swelling [2,5,6,8,9] and/or pain [4,7,10] in the involved area, as it was in the present case. Radiographic features are not diagnostic. Lesions may exhibit unilocular [4,8] or multilocular radiolucencies [7,9,10] and they may also show a blown-out appearance. Unusual features which were seen in the present case were involvement of right mandible, secondary to trauma and its radiographical presentation as a well-defined unilocular radiolucency with scalloped borders.

Origin and pathogenesis of ABC is still an enigma. According to some, it exists as a primary lesion or it may be caused by a secondary phenomenon in both, benign and malignant lesions of bone [1,2]. Microscopically, the lesion consists of many large, blood-filled spaces of varying sizes lined by spindle/plump fibroblasts admixed with few giant cells [H&E 10×].

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REFERENCES


CONCLUSION

ABCs are rare in head and neck region, with variable clinical and histopathological appearances. As some of the lesions occur as secondary phenomena, multiple bits are taken from various areas of a gross specimen and the sections are observed microscopically, to know the underlying pathology for making a proper treatment plan.