ANEURYSMAL BONE CYST IN THE MANDIBLE

(A Case Report)

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ABSTRACT

Aneurysmal bone cyst is commonly seen in the long bones and vertebrae and is rare in the jaws. Its association with other lesions of the bone has been stressed by many workers. Because of its variable radiological appearance, diagnosis of the lesion is established by histopathological examination. A case of aneurysmal bone cyst occurring in the mandible is reported.

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KEY WORDS : Aneurysmal bone cyst; Mandible.

INTRODUCTION

The aneurysmal bone cyst is a benign non-neoplastic intraosseous lesion of unknown pathogenesis. The majority of them occur in the large tubular bones and spine. The lesion is rare in the jaws and if seen, it is more common in posterior part of the body of the mandible and angle or the ascending ramus. Bernier and Bhaskar (1) were the first to report the involvement of the jaws. The patients with jaw lesion are young, usually within the second or third decade and there may be a history of trauma. It may present as a firm painless swelling or as an expansive lesion, sometimes leading to pathological fracture.

The radiological picture is variable showing balloon like expansion and thinning of cortical plates. It is usually unilocular, sometimes faint trabeculations or septae may be discernible giving it a multilocular or honeycomb appearance. Diagnosis of the lesion is established by histopathological examination.

CASE REPORT

A 22 year old female reported with pain and swelling in the left lower jaw of 6 months duration, for which the left lower second molar was extracted by a civilian dental surgeon. There was no history of trauma. Extra-orally there was a diffuse swelling extending from the inferior border of the mandible (Fig 1). The swelling was firm, tender and not fixed to the skin. On intra-oral inspection, the buccal cortex was expanded with obliteration of the buccal vestibule. The lingual cortical plate was spongy and was completely destroyed. The oral mucosa in the left mandibular region was erythematous and swollen with mobility of the left lower first molar. There was no migration of teeth. General physical examination and laboratory investigations including blood chemistry were non contributory. Radiographic examination revealed a large expansive radiolucent lesion extending from the left mandibular premolar region to involve the whole of the left ramus, condyle and coronoid process (Fig 2). No root resorption was evident.

On aspiration no fluid could be withdrawn probably due to the perforation of the lingual cortex. Incisional biopsy from the retromolar region on histologic examination, revealed a nonspecific fibro-osseous lesion with few giant cells (Fig 3). Based on the radiographic appearance, and considering the age of the patient, a provisional diagnosis of either giant cell granuloma, aneurysmal bone cyst or ameloblastoma was made. The patient was operated under general anesthesia and considering the extensive nature of the lesion, hemimandibulectomy was performed (Fig 4,5).

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Fig. 1 : Showing extent of swelling.

Fig. 2 : Radiographic appearance.

Fig. 3 : Microscopical appearance of aneurysmal bone cyst.

Fig. 4 : Resected mandible.

Fig. 5 : Showing post-operative appearance.

Subsequent post operative histopathological examination of the specimen showed large cystic areas with variable sized vascular channels, the walls of which showed osteoclastic giant cells, cholesterol crystals, areas of haemorrhage, haemosiderin laden macrophages and patchy areas of fibrosis. The histological diagnosis was aneurysmal bone cyst. The patient has been followed up post-operatively for over a year with no evidence of recurrence. The patient being from the labourer class, refused secondary reconstruction on account of the morbidity associated with the procedure and at the same time expressed satisfaction with her appearance and masticatory function.

Discussion

Though the precise nature of this lesion is

not clearly understood, most of the authorities agree that it is non-neoplastic. Trauma has been implicated as an etiologic factor in the pathogenesis of aneurysmal bone cyst but in the absence of any definitive evidence, as in our case, this theory is not considered valid. More so, in view of the large amount of trauma to the skeleton, it seems strange that aneurysmal bone cyst does not occur more frequently [2].

Aneurysmal bone cyst structures are sometimes found locally in bone lesions of divergent nature [3,4] such as giant cell granulomas, fibrous dysplasia, chondroblastoma and ossifying fibroma. Elevated vascular pressure within the cavernous spaces in these lesions suggests that there is formation of intraosseal arteriovenous fistulae. Thereafter, secondary changes caused by haemodynamic factors, lead to a structural resemblance to aneurysmal bone cyst. Though there is general agreement as to the histopathologic picture, the radiographic features are not diagnostic, and may suggest lesions like giant cell granuloma, ameloblastoma, central haemangioma, Brown's tumor or nodes and at times may resemble an odontogenic keratocyst.

Of concern to the surgeon is the control of bleeding during the operative procedure.

Various modalities of management of these cases have appeared in the literature.

Simple surgical excision seems to be the treatment of choice, though resection (5), cryotherapy (6) and embolotherapy (7) have been employed. Extensive lesions as in this case are best managed by resection. Recurrence though rare in the jaws, appears to be linked to the age of the patient and size of the cyst, or a combination of both (3).

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