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Case Report

Ossifying Fibroma – A Case Report

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Abstract: Ossifying fibromas are true neoplasms that involve maxillofacial and craniofacial regions. The posterior mandibular region is the most common site for occurrence in maxillomandibular region. These lesions are asymptomatic, well defined radiologically, and show characteristic features histologically. The treatment plan includes enucleation of smaller lesions and resection and reconstruction of larger lesions. We report a case of large ossifying fibroma of mandible in a 13-year-old female child that was resected and reconstructed with vascularised fibula flap.

Keywords: Ossifying Fibroma, Mandible, Resection, Reconstruction, Fibula Flap and Vascularised.

INTRODUCTION

Ossifying fibroma (OF) is a benign neoplastic lesion of the bone. These are thought to arise from the periodontal ligament and are composed of varying cementum, bone and fibrous tissue. Most commonly, occurs in the mandible in 62% and 89% of patient, 77% occurring in premolar region. They are classified as ossifying/ cementifying fibroma not otherwise specified (NOS) and specific types psammatoid, trabecular and gigantiform variant [1]. Clinically these are painless and are incidentally found on the radiograph. Radiographically these have distinct boundaries. Histologically shows an interconnecting trabecular pattern with osteoblastic cell rimming. Treatment includes enucleation, curettage, and resection, depending on the size of the lesion.

CASE REPORT

A thirteen year old female child presented with chief complaint of swelling on right lower jaw region since three years. History of present illness revealed apparently normal patient with small swelling on the right posterior jaw region, which had gradually increased to the present size .History of past illness revealed initially small asymptomatic swelling three years back in right lower back region of the jaw. No relevant medical history.

On general examination, moderately built with a normal gait and well oriented with no pallor, icterus, edema, clubbing, and lymphadenopathy. On extraoral examination, a roughly oval in shape swelling of 4X5 cm extending anteroposteriorly from 5cms of lower lip to 1 and ½ inch away from angle of the mandible. On palpation swelling is hard with well defined borders with no tenderness. There is no paraesthesia or anesthesia involved. Temporomandibular joint is normal with adequate mouth opening.

On intraoral examination, swelling in the right mandibular region obliterating buccal vestibule extends anteroposteriorly from distal to 47 to the mesial of 41 (Fig-1a). Stretching of gingival tissue with superficial vein seen in the region of 43 region. On radiographic examination (Fig 1b, c and d), Orthopantamogram shows a well-defined radiolucency with displaced 44 and 45. Incisional biopsy revealed ossifying fibroma.

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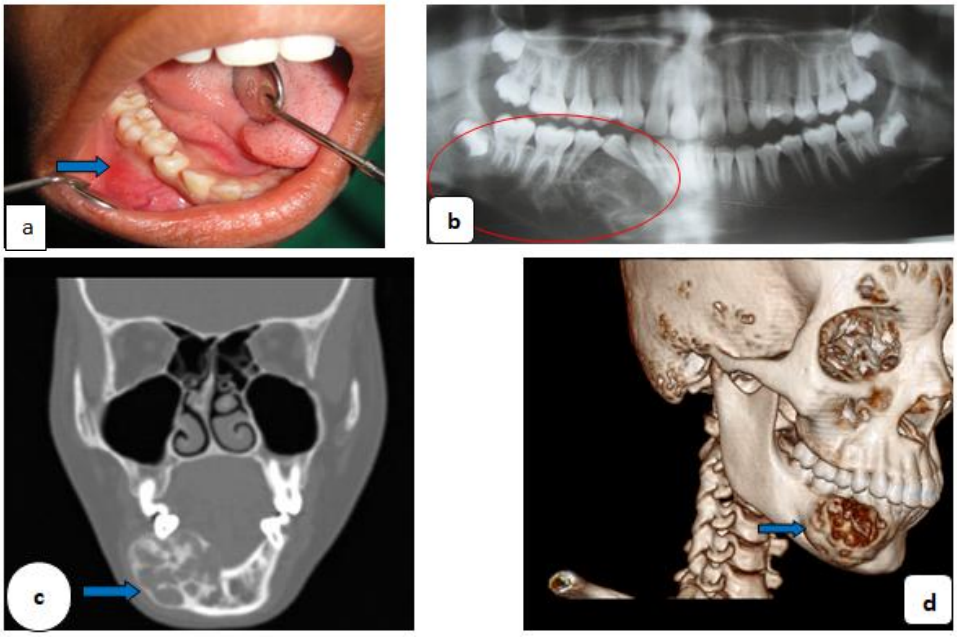

Fig 1a) Clinically showing buccolingual expansion b) Orthopantamogram showing well defined solitary lesion with displaced44 and 45. c) Computed tomography coronal cut showing large lesion in the right mandibular region. d) Three dimensional facial cuts showing buccal cortical perforation in right posterior mandibular region

Surgical Procedure

Under general anaesthesia, nasoendotracheal intubation done, lesion was exposed through extraoral submandibular approach. Dissection in subplatysmal plane was done and facial artery and vein clamped with microvascular clamps. Tumor site was exposed (Fig-2a) and osteotomy cuts given at distal to 46 and mesial to 41. Segmental resection was done (Fig-2b). The resected site was replaced by fibular free microvascular flap (Fig-2c). Microvascular anastomoses of facial artery and facial vein to the procerus artery and procerus vein was done using couplings of 3-0 diameter.

Histopathological report shows presence of irregularly shaped trabeculae of bone formation in dense celluar connective tissue stroma, with peripheral rimming of osteoblasts. Postoperative follow up was done for 3 years. During subsequent follow up, on third postoperative day patient complained of fever for which IV analgesics were given. On ninth day of postoperative period pus discharge on recipient site was observed. Culture and sensitivity test shown isolates of kleibsiella species for which IV antibiotics were prescribed. On later follow up no specific complaints were noted.

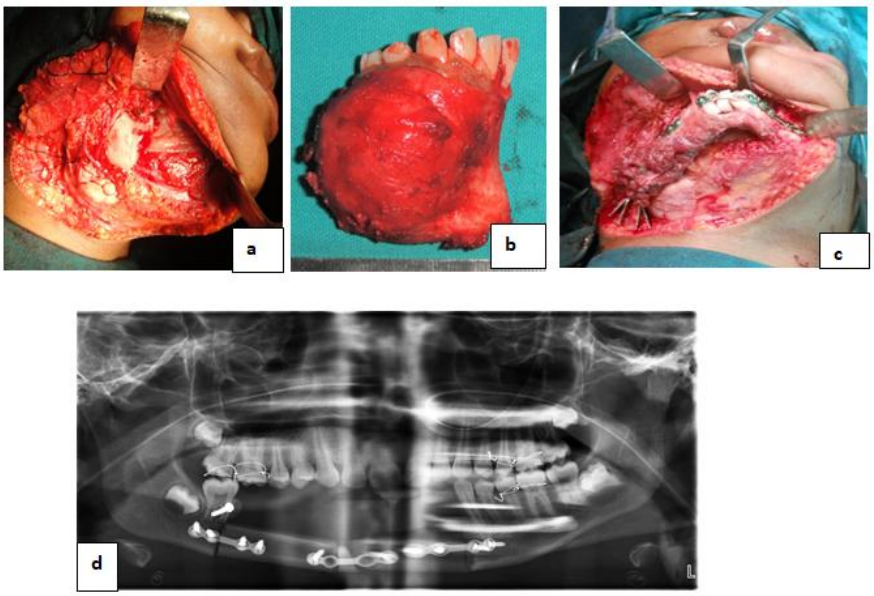

Fig 2a) Intra-operative mandibular defect after resection of lesion b) Resected lesion c) reconstruction of mandibular defect using fibular free flap and stabilised with four holed 2.5mm miniplate. d) postoperative orthopantamogram showing graft placed

DISCUSSION

Ossifying fibromas shows a slow expansile growth centrally within the jaws and are true neoplasm with characteristic bone expansion without cortical perforation. Central ossifying fibroma as an encapsulated neoplasm containing fibrous tissue, metaplastic bone and mineralized masses with rounded borders and few entrapped cells [2]. Mac Donald – Jankowski [3] suggested that a change in female sex hormones is responsible for triggering the growth of cement ossifying fibroma. Radiographically they are typical well defined, solitary radiolucencies with scattered radioopacity foci. The radioopacity depends on the amount of cementum and bone deposition.

Diagnosis of these lesions is difficult due to overlapping radiological and histological features. The definite diagnosis is reached by correlating all the clinical, radiological and histological features. Differential diagnosis includes radioopaque lesions with well defined radiolucent mass; chondrosarcoma or osteosarcoma; odontogenic cysts; calcifying odontogenic cysts; calcifying epithelial odontogenic tumors.

Histopathological picture shows hard tissue pattern with cementum and bone like mineralization. These “Cemento-ossifying fibroma” are distinctive jaw lesions and should not be confused (though they often are) with lesions also termed ossifying fibroma and occuring in other parts of the skeleton [5].

Treatment recommended for ossifying fibroma is excision for the lesions that can be shelled out easily. For lesions with loss of encapsulations and blending with normal bone, requires resection ranging from peripheral to hemi-mandibulectomy. Reconstruction following resection in our case was done using a free fibula vascularised flap. As defect size was more extensive than 9mm the graft and remaining part of mandible was stabilised using 2.5 thick 4 holed miniplate. Recurrence rates has been reported in many of the cases as 28% of patients. It may be due to the greater difficulty in removal of lesion. The present case was followed up for 3 years without any recurrence.

CONCLUSION

Ossifying fibromas are most commonly found in the posterior mandible region. They are asymptomatic until they cause expansion of cortical bone and are sometimes found as an incidental finding. Definitive diagnosis made by correlating clinical features, radiographical features, and histopathological presentation. The treatment plan should include aggressive procedures, as conservative surgical procedures will result in recurrence. Reconstruction of the surgical defect should be done to prevent facial disfigurement and loss of function.

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