Case Report

Huge ossifying fibroma maxilla

Department of ENT and Head and Neck Surgery, King George's Medical University, Lucknow, Uttar Pradesh, India

Satya Prakash Agarwal, Sunil Kumar, Hitendra Pratap Singh, Shahab Ali Usmani

ABSTRACT

Maxillofacial fibro-osseous lesions comprise a group of face and jaw disorders characterized by the replacement of bone by a benign connective-tissue matrix with varying amount of mineralized substances. Fibro-osseous lesions of the maxilla are not an uncommon tumor. Majority of the lesions with fibrous and osseous components include ossifying fibroma, fibrous dysplasia, cemento-ossifying fibroma, and cementifying fibroma. We present a case of 15-year-old female with huge fibroosseous lesion which was treated with total maxillectomy via a Weber-Ferguson approach. Histopathology established that fibroosseous lesion as an ossifying fibroma.

Address for correspondence:
Dr. Shahab Ali Usmani,
Department of ENT and Head and Neck Surgery,
King George's Medical University,
Lucknow, Uttar Pradesh, India.
E-mail: usmanishahab@hotmail.com

Key words: Fibro-osseous lesion, maxilla, ossifying fibroma

Introduction

Fibro-osseous lesions are group of lesions characterized histopathologically by the presence of fibrous stroma with varying amount of mineralized material resembling bone or cementum.[1,2] Fibro-osseous lesions of the maxilla are not an uncommon tumor. Majority of the lesions with fibrous and osseous components include ossifying fibroma, fibrous dysplasia, cemento-ossifying fibroma, and cementifying fibroma with other less common lesions include focal sclerosing osteomyelitis, florid osseous dysplasia, periapical dysplasia, proliferative periostitis of garre, and osteitis deformans. Fibro-osseous lesions other than fibrous dysplasia arise from a layer of fibrous connective-tissue surrounding the roots of teeth. This layer contains multipotential cells that are capable of forming cementum, lamellar bone, and fibrous tissue.[3,4] The differential diagnosis of fibro-osseous lesions includes osteoblastoma, osteoid osteoma, chronic sclerosing osteomyelitis, ameloblastoma of maxillary sinus, Pindborg tumor, calcifying odontogenic cyst (Gorlin cyst), odontogenic myxoma, osteogenesis imperfecta, and Paget's disease.[5]

Access this article online	
Quick Response Code:	Website: www.njms.in
	DOI: 10.4103/0975-5950.183862

Case Report

A 15-year-old woman was presented to us with complaints of gradually progressive swelling left side face with upward and outward bulging of the left eye for 6 years. She also had nasal obstruction and watering from the left eye for 1 year [Figure 1]. The patient had no complaint of pain over the face or during eye movements. Her family and past medical history were insignificant. The physical examination showed left side maxillary enlargement with marked upward and outward displacement of left eyeball. Oral cavity examination revealed obliterated gingiva-buccal groove, displaced, and misaligned teeth with normal oral mucosa and mouth opening. On palpation, swelling was hard in consistency with no fluctuation. There were no signs of inflammation over the face with an irregular surface and free overlying skin. No cervical lymphadenopathy was noted. A computed tomography (CT) scan showed a mixed density mass with diffuse scattered calcification occupying and expanding the left maxillary antrum with marked

How to cite this article: Agarwal SP, Kumar S, Singh HP, Usmani SA. Huge ossifying fibroma maxilla. Natl J Maxillofac Surg 2015;6:241-3.

displacement of left eyeball [Figures 2 and 3]. A tissue sample was obtained for histopathological study which showed a lamellar bone with osteoblastic rimming with subepithelial zone showing fibrous element [Figure 4]. A diagnosis of ossifying fibroma was made, and the patient underwent complete surgical resection via Weber-Ferguson approach [Figure 5].

Discussion

Ossifying fibromas and fibrous dysplasias are the two major groups of benign fibro-osseous lesions that involve the maxilla[6] leading to significant cosmetic and functional disturbances. Because of peculiar patterns of disease progression, it is important to distinguish between the two. Ossifying fibroma is well-circumscribed, slow growing, and sharply defined margins with a radiolucent peripheral component. The etiology of ossifying fibroma remains unknown, and it is considered a tumor arising from periodontal membrane. The lesions are most commonly seen in the third and fourth decades of life with female preponderance. The lesion is generally asymptomatic until the growth produces a pain, paresthesias, and facial asymmetry. Ossifying fibroma most commonly involves mandible and extension of tumor mass into the ramus of the mandible and involvement of the inferior border may lead paresthesia of the inferior alveolar nerve. Involvement of maxilla causes cortical expansion with obliteration of the gingivobuccal sulcus, extension into the nasal cavity, and orbital floor leads to epistaxis and epiphora. On CT, ossifying fibroma appears as a solitary radiolucent cyst-like mass with minimal or absent internal calcified components in early stage while it is radiodense in late stage.[6,7] Histopathologically, ossifying fibroma is composed of lamellar bone with prominent osteoblastic rimming in dense fibrous stroma. The differential diagnosis having radiopacities within a well-defined radiolucent mass includes chondrosarcoma, osteosarcoma, fibrous dysplasia, squamous cell carcinomas, odontogenic

Figure 1: Patient with a left maxillary enlargement with gross disfigurement and marked proptosis

Figure 2: Computed tomography scan axial section shows a well-defined lesion with radiolucent and radio-opaque foci

Figure 3: Computed tomography scan coronal section shows a well-defined lesion with radiolucent and radio-opaque foci

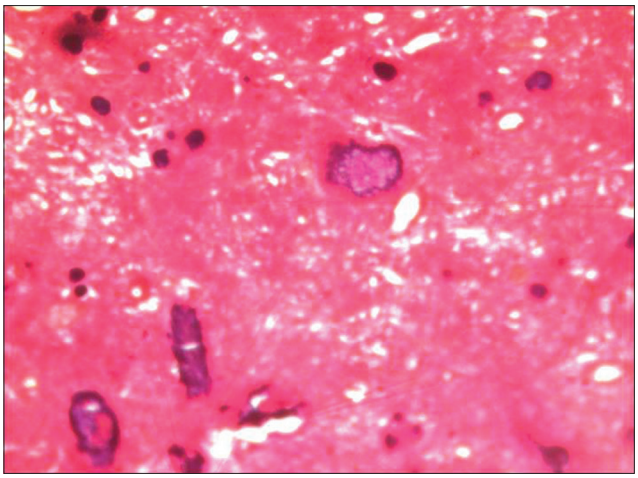

Figure 4: Microphotograph showing fibrous element along with areas of dense ossification as well as psammomatous calcification (H and E, ×10)

Figure 5: The surgical specimen (gross appearance)

cysts, calcifying odontogenic cysts, and calcifying epithelial odontogenic tumors (Pindborg tumors). The well-defined border of the ossifying fibroma helps differentiate it from the aggressive sarcomas and carcinomas. Fibrous dysplasia has a characteristic "ground glass" appearance not seen in the ossifying fibroma. Differentiation of ossifying fibroma and fibrous dysplasia may be difficult due to marked histological and radiological overlapping. There is radiological overlapping among ossifying fibroma, Gorlin cysts, and Pindborg tumors necessitating the final diagnosis on the basis of histologic appearance. Pindborg tumors have a high association with impacted teeth.[8] Ossifying fibroma should be completely enucleated from the surrounding bone because of high chances of recurrence.[1,9]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Waldron CA. Fibro-osseous lesions of the jaws. J Oral Maxillofac Surg 1993;51:828-35.
2. Kramer IR, Pindborg J, Shear M. Histologic Typing of Odontogenic Tumors. 2nd ed. Berlin Germany: Springer Verlag; 1991. p. 27-8.
3. Bertrand B, Eloy P, Cornelis JP, Gosseye S, Clotuche J, Gilliard C. Juvenile aggressive cemento-ossifying fibroma: Case report and review of the literature. Laryngoscope 1993;103:1385-90.
4. Hamner JE 3rd, Lightbody PM, Ketcham AS, Swerdlow H. Cemento-ossifying fibroma of the maxilla. Oral Surg Oral Med Oral Pathol 1968;26:579-87.
5. Shafer WG, Hine M, Levy BM. A Text Book of Oral Pathology. 4th ed. Philodelphia: WB Saunders; 1983.
6. Mafee MF, Yang G, Tseng A, Keiler L, Andrus K. Fibro-osseous and giant cell lesions, including brown tumor of the mandible, maxilla, and other craniofacial bones. Neuroimaging Clin N Am 2003;13:525-40.
7. Cheng C, Takahashi H, Yao K, Nakayama M, Makoshi T, Nagai H, *et al.* Cemento-ossifying fibroma of maxillary and sphenoid sinuses: Case report and literature review. Acta Otolaryngol Suppl 2002;547:118-22.
8. Kuta AJ, Worley CM, Kaugars GE. Central cementoossifying fibroma of the maxillary sinus: A review of six cases. AJNR Am J Neuroradiol 1995;16:1282-6.
9. Brannon RB, Fowler CB. Benign fibro-osseous lesions: A review of current concepts. Adv Anat Pathol 2001;8:126-43.