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Peripheral Ossifying Fibroma - A Case Report

Fibroma Osificante Periférico – Reporte de un Caso

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ABSTRACT: Peripheral ossifying fibroma (POF) is a relatively uncommon gingival growth that is considered to be reactive in nature and appear secondary to irritation or trauma. It presents as an exophytic growth with smooth surface. POF in older age group, observance of calcification in radiograph of excised specimen, pathologic migration, mobility and size greater than 2 cm is an occasional entity. The article presents such a rare case of POF in a 60-year-old female patient which was treated by surgical excision. This case contradicts the logic that this lesion occurs in teenagers and in second and third decades of life.

KEY WORDS: peripheral ossifying fibroma, calcifications, reactive lesion.

INTRODUCTION

Peripheral ossifying fibroma (POF) is a reactive lesion and presents as a solitary gingival enlargement in response to local irritation. POF is defined as a well-demarcated and occasionally encapsulated lesion consisting of fibrous tissue containing variable amounts of mineralized material resembling bone (ossifying fibroma) (Nazareth *et al*., 2011). It is usually seen on the interdental papilla. In 1982, Gardner coined the term peripheral ossifying fibroma for a lesion that is reactive in nature and is not the extraosseous counterpart of a central ossifying fibroma (COF) of the maxilla and mandible. Trauma or local irritants such as subgingival plaque and calculus, dental appliances and poor quality dental restorations are often associated with the causation of the lesion. It is one of the infrequently occurring gingival lesions (Pal *et al*., 2012).

Clinically it appears as a nodular mass, either pedunculated or sessile, usually ulcerated and erythematous or it may exhibit a color similar to the surrounding gingiva. POF may occur at any age, but exhibits a peak incidence between second and third decades of life. It has a female preponderance. There is a slight predilection for the maxillary arch in the incisor and cuspid region. About 60% of these tumors occur in maxilla and more than 50% of all cases of maxillary POF are found in the incisors and canine areas (Mishra *et al*., 2011). Recurrence rate is high. Eversole and Rovin reported recurrence rate of 20%. Therapy includes surgical excision. This article presents a case of POF which was treated by surgical excision.

CASE REPORT

A healthy 60 year old female patient reported to the hospital with chief complaint of “lump” in upper front region of mouth since past 2 years. The growth was initially of peanut size & increased up to its present size. She had slight difficulty in closing her lips and biting since one year. It is not associated with other symptoms. Medical history was negative for any findings and all vital signs were normal.

Clinical examination: Extraoral examination revealed a solitary well defined swelling in the middle 1/3rd of the face of size 2X3 cm extending superoinferiorly from lower border of the ala of nose to the vermillion border of upper lip. Anteroposteriorly it extends from midline to angle of mouth on either side. Skin overlying swelling is stretched & normal in color. Nasolabial fold was obliterated. On examination, the patient’s lips were incompetent. Upper lip approximation

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was difficult due to large swelling protruding from the upper anterior gingival region (Fig. 1).

Fig. 1. Extraoral examination

Intra oral examination revealed a solitary sessile well defined intraoral growth in relation to 11,12, 21 of size 3X3.5 cm, spherical in shape, extending superoinferiorly from depth of vestibular sulcus below the labial frenum to 2 mm short of occlusal surface of 11 and 21. Mediolaterally it extends from distal surface of 21 to distal surface of 12. Surface texture is smooth. Overlying mucosa is pinkish at the centre, red at the periphery. The surface of the growth was lobulated. The growth was with well-defined borders. Surrounding tissue especially free marginal gingiva of surrounding teeth is erythematous. No surface ulceration and spontaneous bleeding was seen. Growth is freely mobile over underlying tissues. No visible pulsations were seen or felt. There was displacement of 11, 21, with 11 supraerupted. On palpation, the growth was not tender, firm & hard in consistency, mobile over deeper structures, fluctuation is absent, it was non translucent, non compressible, non pulsatile and not fixed to overlying tissues. The growth did not blanch on palpation. Moderate stains and severe calculus was present. Electric pulp testing revealed 11, 21, 22 were vital. There was grade I mobility with 11 and 22 (Fig. 2).

Diagnosis: On the basis of clinical findings diagnosis of peripheral ossifying fibroma was arrived. Differential diagnosis consisted of pyogenic granuloma, peripheral giant cell granuloma (PGCG), irritational fibroma or peripheral odontogenic fibroma.

Investigations and Treatment: Excisional biopsy was performed after explaining the procedure and obtaining consent from the patient. After ensuring that

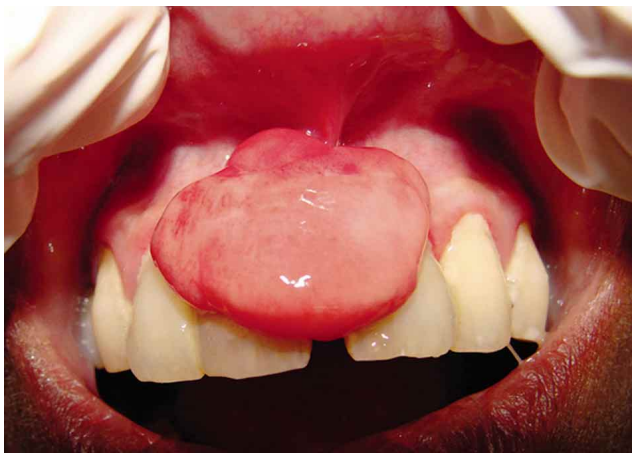

Fig. 2. Intraoral examination

the hemogram of the patient was within normal limits, under local anesthesia the lesion was completely excised and radiograph of the excised specimen was taken. Radiograph of excised specimen showed dense radio opaque mass in the core of the lesion which confirmed the clinical diagnosis (Fig. 3). The excised specimen was sent for histopathologic examination. Adjacent teeth were scaled with thorough subgingival curettage and root planed to remove local irritants. Patient was discharged with prescription of painkiller and chlorhexidine mouth wash. The patient was recalled after ten days and postoperative intraoral and occlusal radiograph was taken. Postoperative radiograph showed no traces of the lesion (Fig. 4A and B). The lesion was healed and normal radiographic findings were found.

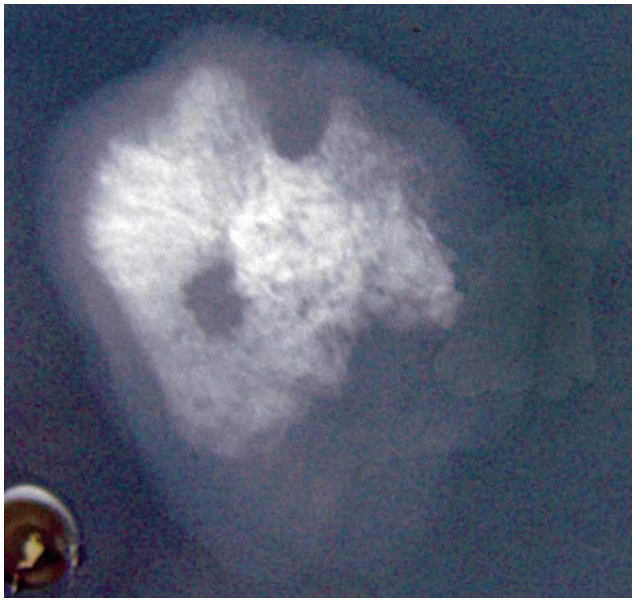

Fig. 3. Radiograph of excised specimen.

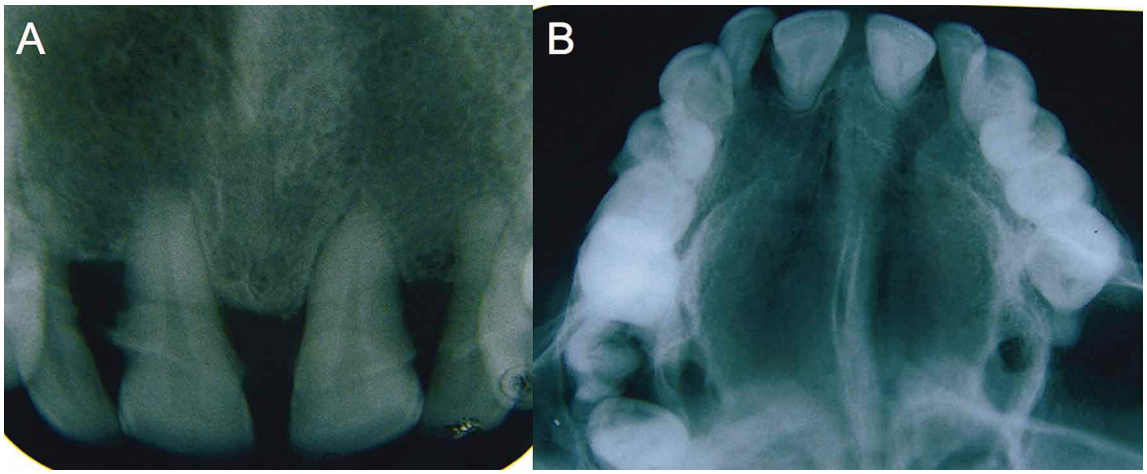

Fig. 4. Post operative radiographs, A. IOPA and B. Occlusal.

Histopathology: The H-E stained studied sections showed fibrocellular connective tissue with proliferating fibroblasts & thick & dense bands of collagen fibers. The connective tissue was centrally occupied by a prominent/ large ossification or trabecular bone (metaplastic). There was no/minimal signs of inflammation. The overlying epithelium appeared normal and overall features were suggestive of focal reactive overgrowth.

The clinical and histopathological findings along with the radiograph of the excised specimen confirmed it to be a case of peripheral ossifying fibroma.

DISCUSSION

POF is one of the most common inflammatory hyperplasia in response to injuries affecting mouth cavity. It is a benign fibro-osseous lesion with significant growth potential. Many patients do not approach a dentist till the size increases considerably as it is mainly asymptomatic during initial stages. Intraoral ossifying fibromas have been described in the literature since the late 1940 s. In 1872, Menzel first described ossifying fibroma, but only in 1927 Montgomery assigned its terminology (Gaikwad *et al*., 2012). The term POF was coined by Eversole & Robin. It occurs more in whites (71%) than in blacks (36%) (Akkara *et al*., 2013) and less common among Hispanics (Farquhar *et al*., 2008).

Considerable confusion has prevailed in the nomenclature of peripheral ossifying fibroma, with various synonyms being used, such as peripheral cementifying fibroma, ossifying fibroepithelial polyp, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, calcifying or ossifying fibrous epulis and calcifying fibroblastic granuloma. Regarding the pathogenesis some believe that POF develops from cells of periodontal ligament /Periosteum, which is accepted by most, while another group believes it to be a more mature variant of pyogenic granuloma following fibrous maturation and calcification. Hormonal influences may play a role, as it has higher incidence among females, increasing occurrence in the second decade and declining incidence after the third decade. The POF has a peak incidence in young and teenaged females. Cundiff reported that the lesion is prevalent between ages of 5 and 25 years, with a peak incidence at 13 years of age. Cundiff also reported a definite female predilection. Female to male ratio may vary from 2:1 to 3:2 (Mishra *et al*.). Some of the lesions may be misdiagnosed as pyogenic granuloma but tooth displacement and resorption of bone are not observed as seen in pyogenic granuloma. Pyogenic granuloma presents as soft, friable nodule, small in size that bleeds with tendency to hemorrhage (Bhasin *et al*., 2013). Calcification, which is the most expressive histopathological feature, will differentiate POF from other fibrous proliferation (Gaikwad *et al*.). PGCG has clinical features similar to those of POF, but the latter lacks the purple blue discoloration commonly associated with PGCG. Peripheral odontogenic fibroma is an uncommon neoplasm that is believed to arise from odontogenic epithelial rests in periodontal ligament or attached gingiva itself. Traumatic fibroma occurs on buccal mucosa along the bite line.

The rate of recurrence has been reported to vary from 16% to 20% (Bhasin *et al*.). It probably occurs due to incomplete initial removal, repeated injury or

persistence of local irritants. The average time interval for the first recurrence is 12 months.

POF is characterized by a high degree of cellularity usually exhibiting bone formation, although occasionally, cementum-like material or dystrophic calcification may also be found (Bari *et al*., 2013). The lesion usually measures less than 1.5 cm in diameter (Jyothi & Rao, 2011-2012). The definite diagnosis of POF is made by histopathologic evaluation of biopsy specimens. The following features are usually observed during microscopic evaluation: (i) Benign fibrous connective tissue with varying content of fibroblast, myofibroblast and collagen; (ii) Sparse to profuse epithelial proliferation; (iii) Mineralized material which may represent mature, lamellar or woven osteoid, cementum like material or dystrophic calcifications and (iv) Acute and chronic inflammatory cells are also identified.

In some cases, this characteristic pattern is only part of the pattern of a larger lesion that may resemble an irritation fibroma or pyogenic granuloma (Jyothi & Rao). According to some authors there is a high prevalence of ulceration. i.e 62% and 65% (Pendyala *et al*., 2012).The non-ulcerated POF lesions are similar to an ulcerated type except for the presence of surface epithelium (Nazareth *et al*.). The presented case demonstrated the features of a non-ulcerated POF.

Radiologically and depending on the size of the ossification foci and if calcified element is significant in the soft tissue growth, radiopaque foci of calcifications are seen in central area of the lesion on the periapical or panoramic X-rays (Bari *et al*.). But not all lesions demonstrate radiographic calcifications (Yadav & Gulati, 2009). Underlying bone involvement is usually not visible on a radiograph in majority of cases. In rare instances superficial erosion of bone (Yadav & Gulati), and cupping defect is noted (Sudhakar *et al*., 2009). In present case clear radiographic calcifications were seen at the core of the lesion which indicated that the lesion was in mature stage. Also the radiopacity was dense because the lesion was of long duration. Usually, the teeth are unaffected; rarely, it may cause pathologic migration with separation of adjacent teeth, mobility and delay in eruption of permanent tooth (Sudhakar *et al*.). In this case teeth were migrated and also mobility was observed due to the growth. Early recognition and definitive surgical intervention result in less risk of tooth and bone loss. The radiopacity of teeth structures may obscure calcifications to be seen. So it is prudent to take an radiograph of excised specimen to view radiopacities of this lesion clearly (Jyothi & Rao).

The case presented with significant amounts of plaque, calculus which are considered to be irritants triggering the lesion.

CONCLUSION

Based on the clinical, radiographic and histopathological findings, a final diagnosis of peripheral ossifying fibroma was confirmed. Presence of dense calcification, occurrence in older age, greater size than usual lesions, and use of radiograph of excised lesion to view calcifications clearly makes this case a unique one. Complete excision of the lesion with the underlying periosteum will prevent its recurrence. Follow up is essential because of the recurrence rates. Recurrence is due to incomplete excision and/or due to persistence of local factors. Without treatment they can increase in size and interfere with normal chewing and swallowing. Hence, early diagnosis and prompt treatment is required.

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RESUMEN: El fibroma osificante periférico (FOP) es un crecimiento gingival poco común, considerado reactivo por su naturaleza y en general se manifiesta secundario a una irritación o trauma y se presenta como un crecimiento exofítico de superficie lisa. En grupos de mayor edad, el FOP muestra calcificación radiográfica, migración patológica, movilidad y un tamaño mayor de 2 cm, es de carácter ocasional. Se presenta un caso raro de FOP en una paciente de 60 años que fue tratado mediante excisión quirúrgica. Este caso, contradice su lógica de aparición en adolescentes o adultos entre la segunda y tercera década de la vida.

PALABRAS CLAVE: fibroma osificante periférico, calcificaciones, lesión reactiva.

REFERENCES

Akkara, F.; Chalakkal, P.; Boyapati, C. M. & Pavaskar, R. Peripheral ossifying fibroma secondary to pulpo-periodontal irritation. *J. Clin. Diagn. Res., 7(9)*:2076-7, 2013.

Bari, L.; Rathod, N.; Kapse, C. S.; Khan, A.; Narang, B.; Bari, V. & Koshy, A. V. Peripheral Ossifying Fibroma: Maxilla. A case report. *Int. J. Dent. Case Rep., 3(1)*:50-4, 2013.

Bhasin, M.; Bhasin, V. & Bashin, A. Peripheral ossifying fibroma. *Case Rep. Dent., 2013*:497234, 2013.

Farquhar, T.; Maclellan, J.; Dyment, H. & Anderson, R. D. Peripheral ossifying fibroma: a case report. *J. Can. Dent. Assoc., 74(9)*:809-12, 2008.

Gaikwad, P.; Sharma, M.; Arun, S. & Anuj, G. Peripheral ossifying fibroma-A case report. *Medico-Legal Update, 12(1)*:4-5, 2012.

Jyothi, L. & Rao, T. Peripheral ossifying fibroma-A case report. *Indian J. Dent. Res. Rev., 75-7*, 2011-2012.

Mishra, M. B.; Bhishen, K. A. & Mishra, S. Peripheral ossifying fibroma. *J. Oral Maxillofac. Pathol., 15(1)*:65-8, 2011.

Nazareth, B.; Arya, H.; Ansari, S. & Arora, R. Peripheral ossifying fibroma – A clinical report. *Int. J. Odontostomat., 5(2)*:153-6, 2011.

Pal, S.; Hegde, S. & Ajila, V. The varying clinical presentations of peripheral ossifying fibroma: A report of three cases. *Rev. Odonto Cienc., 27(3)*:251-5, 2012.

Pendyala, G.; Joshi, S.; Marawar, P. P.; Pawar, B. & Mani, A. Peripheral ossifying fibroma-A case report. *Pravara Med. Rev., 4(2)*:27-30, 2012.

Sudhakar, S.; Praveen Kumar, B. & Prabhat, M. P. V. Peripheral Ossifying Fibroma. *Online J. Health Allied Sci., 8(3)*:17, 2009.

Yadav, R. & Gulati, A. Peripheral ossifying fibroma: a case report. *J. Oral Sci., 51(1)*:151-4, 2009.

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