ABSTRACT:

Gingival swelling is a condition that hinders efficient oral hygiene and is of aesthetic concern to patients. The gingiva is often the site of localized growths that are considered to be reactive rather than neoplastic in nature. Peripheral ossifying fibroma is one such reactive lesion. Many of these lesions are difficult to be identified clinically and can be identified only on the basis of histomorphology. Other terms used to describe this lesion include peripheral cementifying fibroma, peripheral fibroma with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, calcified or ossified fibrous epulis and calcified fibroblastic granuloma. The purpose of this article is to report the treatment of peripheral ossifying fibroma by surgical excision, which provided a good clinical outcome with improvement of mastication, feeding, and phonetics.

Key words: Fibrous epulis, gingival growth, peripheral ossifying fibroma.

INTRODUCTION -

Gingival swelling is a condition that hinders efficient oral hygiene and is of aesthetic concern to patients. The gingiva is often the site of localized growths that are considered to be reactive rather than neoplastic in nature. Peripheral ossifying fibroma is one such reactive lesion. Localized hyperplastic lesions of the gingiva or “Epulides” as they are commonly known, are a well recognized entity since generations. The word ‘epulis’ is derived from Greek “epi” and “elon”; meaning ‘on the gingiva’. Thus logically this term can be used to describe the clinical appearance of any lesion that appears on the gingiva. This term however, does not give any indication about the nature of the lesion.1,2 Peripheral ossifying fibroma, a reactive gingival disorder known under the generic term of epulis, is widely considered to originate from the cells of the periodontal ligament.3 It is believed to comprise about 9% of gingival growths and to arise from the gingival corneum, periosteum and the periodontal membrane. It has also been reported that it represents a maturation of a pre-existing pyogenic granuloma or a peripheral giant cell granuloma.4

Fibromas are the most common of all the oral fibrous tumor like growths. While the terminology implies a benign neoplasm, most if not all fibromas represent reactive focal fibrous hyperplasias due to trauma or
local irritation. When the lesion is found on the attached gingiva, in the areas of gingival sulcus or interdental papilla, it is known as *peripheral fibroma*. When found on non-gingival locations such as the labial mucosa or buccal mucosa, along the line of occlusion; it is known as *irritation fibroma*. Other terms used to describe this lesion include peripheral cementifying fibroma, peripheral fibroma with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, calcified or ossified fibrous epulis and calcified fibroblastic granuloma. The size of the lesion is usually small, located mainly in the anterior maxilla with a higher predilection for females, and it is more common in the second decade of life. It may be pedunculated or broad based, usually smooth surface and varies from pale pink to cherry red in colour. The purpose of this article is to report the treatment of ossifying fibroma by surgical excision.

**CASE REPORT**

A 45 years old female patient presented to the Faculty of Dental Sciences, BHU, Varanasi, with a chief complaint of difficulty in chewing due to a swelling on gums at upper front region of the jaw since 2 months. On clinical examination a well circumscribed gingival swelling of 2cm X 1.5cm in size without ulcerations was present in relation to 11, 12 (Fig.1). The lesion was soft in consistency, sessile and bleeding on probing was present. No radiological signs of involvement of the alveolar ridge were observed. Patient's medical history was uneventful. Therefore, after considering the dental history, a conventional scaling and root planing was performed, followed by surgery for excision of the lesion. After local anesthesia, the localized lesion was excised with help of a 15 no. B.P. blade upto the base of the lesion (Fig.2,3). It was ensured that the lesion is completely excised by trimming up the remnants of the soft tissue adjacent to the tooth to prevent recurrence of the lesion and the sample was sent for histopathology (Fig.4). After excision a periodontal dressing was applied to prevent the wound from trauma and to enhance healing for 1 week (Fig.5). Antibiotics and analgesics were prescribed for 1 week. Patient was monitored on weekly schedule postoperatively, to ensure good oral hygiene in the surgerized area (Fig.6). The histological study of the specimen after simple resection confirmed the diagnosis of peripheral ossifying fibroma. At 1-yr recall, the gingival tissues were healthy with successful healing and no more recurrence.

**DISCUSSION**

Fibromas are the most common of all the oral fibrous tumor like growths. While the terminology implies a benign neoplasm, most if not all fibromas represent reactive focal fibrous hyperplasias due to trauma or local irritation. Peripheral ossifying fibroma, a reactive gingival disorder known under the generic term of epulis, is widely considered to originate from the cells of the periodontal ligament. The differential diagnosis of these papules includes: gingival fibrous nodule, papilloma, focal epithelial hyperplasia, fibroma, gingival cyst, multiple hamartomas, and exostosis. Almost 60% of the lesion occur in the maxilla and most commonly in the anterior region. The lesion is most common in the second decade of life, affecting mainly females. Dental plaque, calculus, dental appliances and restorations are considered to be the irritants triggering the lesion. The lesion though usually smaller than 1.5cm in diameter can reach a much larger size and can cause separation of adjacent teeth, resorption of the alveolar crest, destruction of bony structure and cosmetic deformity. The term Peripheral Ossifying Fibroma is usually confused with Peripheral Odontogenic Fibroma, which is the rare peripheral counterpart of central odontogenic fibroma. This is because the lesion is derived from the periodontal ligament and hence to be odontogenic. The evidence for its odontogenic origin is circumstantial, being based partly on the demonstration of oxytalan fibers within its calcified structures and its exclusive occurrence on gingiva. However, oxytalan fibers have also been reported in the sites other than the periodontal ligament. A Peripheral Ossifying Fibroma is more common in females and in the anterior maxilla, but Peripheral Odontogenic Fibroma has a predilection for males and the posterior mandible. Even an unusual occurrence of a Peripheral Ossifying Fibroma associated with dental pulp has been reported. Histologically, Peripheral Ossifying Fibroma can exhibit either ulcerated or intact stratified squamous

epithelium. The above case showed non-ulcerated type. In a typical ulcerated lesion, three zones could be identified:

**Zone I**: The superficial ulcerated zone covered with the fibrinous exudate and enmeshed with polymorphonuclear neutrophils and debris.

**Zone II**: The zone beneath the surface epithelium composed almost exclusively of proliferating fibroblasts with diffuse infiltration of chronic inflammatory cells mostly lymphocytes and plasma cells.

**Zone III**: More collagenized connective tissue with less vascularity and high cellularity; osteogenesis consisting of osteoid and bone formation is a prominent feature, which can even reach the ulcerated surface in some cases.

The calcified material can generally take one or more of the following four forms: (a) mature lamellated trabecular bone; (b) immature, highly cellular bone; (c) circumscribed amorphous, almost acellular, eosinophilic, or basophilic bodies, and (d) minute microscopic granular foci of calcification. The non-ulcerated lesions are typically identical to the ulcerated type except for the presence of surface epithelium. Cementum-like material is found in less than one-fifth of the lesions and dystrophic calcifications are more prevalent in ulcerated lesions. It is suggested that there is no absolute histological distinction between bone and cementum and so the cementum-like globules of calcification that are seen in fibro-osseous lesions, are also seen in all membrane bones. The ossifying and cementifying lesions should not be differentiated as it is speculated that the fibro-osseous lesions might represent stages in the evolution of a single disease process, passing through the stages of fibrous dysplasia to ossifying fibroma to cementoid lesions. In children, reactive gingival lesions can exhibit an exuberant growth rate and reach significant size in a relatively short period of time. In addition, the peripheral ossifying fibroma can cause erosion of bone, can displace teeth, and can interfere or delay eruption of teeth. Early recognition and definitive surgical intervention result in less risk of tooth and bone loss. Clinically it is difficult to differentiate between most of the reactive gingival lesions particularly in the initial stages. Treatment requires proper surgical intervention that ensures deep excision of the lesion including periosteum and affected periodontal ligament.

**CONCLUSION**

The lesion was painless as nerves do not proliferate within the reactive hyperplastic tissue. Surgical excision is a successful treatment of choice in minimizing the recurrence of lesion. Regardless of the surgical technique employed, it is important to eliminate the etiological factors and to examine the tissues histologically for confirmation. So, the consideration should also be given to correct diagnosis and proper treatment planning.

**REFERENCES**
