Peripheral Ossifying Fibroma – A Clinical and Histopathologic Case Report

Dr. Vishakha Keshav Padhye*, Dr. Shweta S. Hugar, Dr. Neelamma A. Shetti, Dr. Shruti Karvekar

1Post Graduate Student, 2,4Lecturer, 3Reader
Department of Periodontics, KAHERs KLE Vishwanath Katti Institute of Dental Sciences, JNMC Campus, Nehru Nagar, Belagavi, Karnataka, India

Corresponding Author:
Dr. Vishakha Keshav Padhye
Post graduate student, Department of Periodontics, KAHERs KLE Vishwanath Katti Institute of Dental Sciences, Belagavi

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ABSTRACT
This is a case report of POF featuring 35-year-old female patient which describes the growth noticed on gums of upper left posterior teeth in the region of stainless-steel bridge (24-25) interdentally present between 25-26. This lesion predominantly occurs in the maxillary anterior region of the jaw. It was asymptomatic, firm, pinkish red and pedunculated; histologically showing epithelium which is stratified squamous para-keratinized type with pseudo-epitheliomatous hyperplasia. Here conventional scalpel method was used to eliminate the lesion and postoperative healing was well obtained.

Keywords: Ossifying Fibroma, Fibroma, Gingival Overgrowth, Peripheral Ossifying Fibroma

INTRODUCTION
Benign fibrous overgrowths arising from the mucous membrane are termed as fibromas and are frequent growths in the oral cavity [1]. Many of the fibrous growths originate from underneath the periodontium, similar to peripheral ossifying fibroma (POF). POF is an occasional growth in the anterior region of mandible and accounts for 3.1% of all oral tumors and 9.6% of the gingival lesions. About 60% of these tumors occur in maxilla and more than 50% of all cases of maxillary POF are found in incisors and canine areas [1]. The world health organization in 2005 classified bone fibrous lesions in 3 main categories: Fibrous dysplasia, Reactive lesions, (peripheral cemento-ossifying dysplasia, focal cemento-ossifying dysplasia) and Ossifying fibroma neoplasias [2]. The management of POF includes the elimination of local irritating factors with strict plaque control regime along with surgical excision of overgrowth. Hereby, the present case is an attempt to discuss the management of POF using conventional method of surgical excision.

CASE REPORT
A female patient of age 35 years reported to the department of periodontics KAHER’s KLE VK Institute of dental sciences, Belagavi with chief complaint of swelling on gums of upper left posterior teeth region of the jaw since 3 months. Intraoral examination revealed swelling interdentally between 25-26. It was firm in consistency, non-inflamed/ non-erythematous, nontender on palpation with normal surface temperature. Swelling is pedunculated with stalk attached interdentally between 25 and 26 on attached and marginal gingiva. (Figure 1a) Blanching was evident when swelling was lifted to see where its peduncle is attached to gingiva. (Figure 1b) There was no history of trauma or food lodgment, though space was evident between stainless-steel crown and tooth preparation depicting...
improper crown placement. Oral hygiene of the patient was good and properly maintained. The lesion was excised, and tissue was sent for histopathological examination to Department of Oral Pathology and Microbiology.

Histological examination revealed three pieces of soft tissues, greyish white in color, measuring about 0.7x0.7 cm² to 0.2x0.2 cm²

Under higher magnification (40X): Section shows epithelium which is stratified squamous para-keratinized type showing pseudoepitheliomatous hyperplasia. Underlying connective tissue stroma consists of loose to dense bundle of collagen fibers with plump to spindle shaped fibroblasts. Diffuse chronic inflammatory infiltrate predominantly of lymphocytes and plasma cells are seen. Focal areas show fibro-cellular connective tissue stroma along with one area showing eosinophilic calcification with osteocytes in lacunae and osteoblastic rimming suggestive of reactive bone. Endothelial lined blood vessels with RBCs and extravasated RBCs are seen. (Figure 2)

Treatment included Complete full mouth ultrasonic scaling to remove local factors.

Patient was recalled after 7 days post scaling to observe if any sized reduction is present after removal of local factors. Swelling size was unaltered hence decision of excision of the swelling was taken. Patient was given chlorhexidine mouthwash to maintain her oral hygiene and was scheduled for excisional biopsy after 7 days. Hemogram reports (hemoglobin, bleeding and clotting time, random blood sugar) were obtained at the day of surgery and they were within normal range hence patient was prepared for surgery.

Incision was given at the base (attachment) of the peduncle of the swelling and round pea sized mass of the gingival tissue was excised and sent for the biopsy, area near the base of the attachment of the peduncle was carefully curetted using Gracey curettes for complete removal of the attachment of the swelling interdentally between 25 and 26 and beneath the crown of 25. (Figure 3) Betadine irrigation of the involved area including undersurface of the crown was done and patient was kept on the 7th day, 15th day, 1 month, 3 months follow up. There was absence of recurrence seen on the follow up visits.

DISCUSSION

POF is a non-neoplastic enlargement of gingiva that is classified as a reactive hyperplastic inflammatory lesion. A common gingival growth, which is typically seen on the interdental papilla and is believe to comprise about 9% of all gingival growths [3]. Maxilla is the common site for POF compared to mandible. About 60% of the lesions occur in maxilla, mostly in the mesial to molars region. Dental plaque, dental calculus, microorganisms, dental appliances and restorations act as triggering factors for the lesion to occur [4].

Though the etiopathogenesis of peripheral ossifying fibroma is uncertain, an origin from cells of the periodontal ligament has been suggested. The reasons for considering periodontal ligament origin for peripheral ossifying fibroma in the gingiva (interdental papilla), the proximity of gingiva to the periodontal ligament and the presence of oxytalan fibers within the mineralized matrix of some lesions [5].

Many studies have been conducted to understand the etiopathogenesis of POF, however, the exact mechanism is still undefined. Differential diagnosis of POF from the reactive lesions such as – Peripheral giant-cell granuloma, Pyogenic Granuloma, Traumatic fibroma and Peripheral odontogenic fibroma is of utmost importance for the accurate diagnosis and management of lesion [6].

Histopathological investigation is a definitive approach to reach a confirmatory diagnosis of reactive lesions in the present case histologic section showed epithelium which is stratified squamous para-keratinized type showing pseudoepitheliomatous hyperplasia. Hence the POF diagnosis was established.

Elimination of injurious agents, effective plaque control, good patient motivation and precise surgical excision is the key for successful management of reactive gingival lesions. Various treatment modalities, such as conventional scalpel, electrosurgery, cryosurgery, etc., for surgical excision of overgrowth, are being used for decades [6]. Conventional scalpel method was used here to
eliminate the lesion and postoperative healing was well obtained.

CONCLUSION

The POF represents a reactive benign lesion of connective tissue whose accurate diagnosis will be guided by examination of clinical characteristics, radiographic studies and histopathologic features of the lesion. The accepted treatment protocol includes complete surgical excision to rule out recurrence and regular follow-ups.

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REFERENCES


FIGURES

Figure 1a and 1b: Swelling present interdentally between 25-26 with evident blanching on elevation of the swelling with probe with its peduncle

Figure 2: Histological picture (10X and 40X) showing dense fibrous tissue and eosinophilic calcification with osteocytes in lacunae and osteoblastic rimming suggestive of reactive bone.
Figure 3: After excision and curettage of the affected region (interdentally between 25-26)