

# Peripheral Ossifying Fibroma: A Case Report

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## ABSTRACT

Peripheral ossifying fibroma is a reactive gingival overgrowth usually arising from the interdental papilla occurring frequently in the anterior maxillary region in teenagers. Females are most often affected than males. Peripheral ossifying fibroma is a gingival lesion characterized by a high degree of cellularity usually exhibiting bone formation, although occasionally cementum-like material or rarely dystrophic calcification may be found. Here we report a case of peripheral ossifying fibroma in a 12 year old male. Treatment includes excision down to periosteum to eliminate any local irritants and care must be taken to maintain or re-establish acceptable gingival architecture and periodontal integrity.

**KEYWORDS:** Epulis, Fibroma, Fibrous hyperplasia, Focal reactive hyperplastic lesions, PCOF; Pyogenic granuloma

## INTRODUCTION

It is typically a solitary, slow growing, sessile or pedunculated nodular reactive gingival lesion that is believed to arise from the cells of periodontal ligament and periosteum.<sup>1</sup> Peripheral ossifying fibroma is a gingival lesion characterized by a high degree of cellularity, usually exhibiting bone formation, although occasionally cementum-like material or rarely dystrophic calcification may be found. Peripheral ossifying fibroma can occur at any age (mean age-29 years), although it appears to be somewhat more common in children and young adults. Females are most often affected than males by a ratio ranging from 2:1 of 3:2. The lesions are approximately equally divided between the maxilla and the mandible and anterior region more affected than posterior region. The etiopathogenesis of the POF is not known, trauma or local irritants such as subgingival plaque and calculus, dental

appliances, poor quality dental restorations, masticatory forces, food lodgements and iatrogenic factors may influence the development of the lesion.<sup>2</sup> Peripheral ossifying fibroma occurs exclusively on the gingiva. It appears as a nodular mass, either pedunculated or sessile, that usually emanates from the interdental papilla. It is of the same color as normal mucosa or slightly reddened.<sup>3</sup>

Histopathological features include intact or ulcerated stratified squamous surface epithelium, benign fibrous or connective tissue with varying number of fibroblast, sparse to profuse endothelial proliferation, mineralized material consisting of mature, lamellar or woven osteoid, cementum like material, or dystrophic calcification and acute or chronic inflammatory cells in lesions.<sup>4,7</sup>

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### CASE REPORT

A 12yrs old male patient visited to The Department of Pedodontics and preventive dentistry with the chief complaint of swelling of gums in the upper front region since 3months.(Fig No.1). The swelling was initially small which gradually increased in size. It was a pedunculated, firm, nonulcerated, nontender and had a normal color of gingiva. The swelling was present in relation to attached gingiva of 12,13 which extending to the marginal gingiva. The associated tooth(12,13) was caries free and no apparent bone loss was seen surrounding the tooth in the radiograph(Fig No.2). His medical and family history was noncontributory and had no deleterious habits. A provisional diagnosis of peripheral ossifying fibroma was made. Treatment includes excision down to the periosteum to eliminate any local irritants and care must be taken to maintain or re-establish acceptable gingival architecture and periodontal integrity(Fig No.3).



Figure No.1: Preoperative Photograph



Figure No.2: Intraoral Periapical Radiograph



Figure No. 3: Postoperative Photograph

### DISCUSSION

The commonly used synonyms for POF include peripheral cementifying fibroma, peripheral fibroma with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, calcifying or ossifying fibrous epulis, and calcifying fibroblastic granuloma. Though the etiopathogenesis of POF is uncertain, an origin from cells of the periodontal ligament has been suggested. The reasons for considering a periodontal ligament origin for POF include: exclusive occurrence of POF in the gingiva (interdental papilla), the proximity of gingiva to the periodontal ligament, the presence of oxytalan fibers within the mineralized matrix of some lesions.<sup>3,6</sup>

Peripheral ossifying fibroma elaborate bone, cementum and spheroidal calcifications, which has given rise to various terms for this reactive lesion including peripheral cemento-ossifying fibroma. When bone predominates, ‘ossifying’ is the appellation; while the term ‘cementifying’ has been assigned when curvilinear trabeculae or spheroidal calcifications are encountered. When bone and cementum-like tissues are observed, the lesions have been referred to as peripheral cemento-ossifying fibroma.<sup>7</sup>

Furthermore, high female predilection, rare occurrence in the first decade, and decline in incidence after 30 years of age suggests that

hormonal influence may be a lesional growth factor (Kenny et al, 1989; Miller et al, 1990; Whitaker & Bouquot, 1994).<sup>8</sup>

The clinical differential diagnosis of a peripheral cemento-ossifying fibroma includes peripheral odontogenic fibroma, pyogenic granuloma, peripheral giant cell granuloma, giant cell fibroma, inflammatory gingival hyperplasia, pregnancy tumor, and fibroma.<sup>9</sup> The POF must be differentiated from the peripheral odontogenic fibroma (PODF) described by the World Health Organization. Histologically, the PODF has been defined as a fibroblastic neoplasm containing odontogenic epithelium. Despite the preponderance of literature supporting differentiation, some authors continue to argue that the POF (or peripheral cemento-ossifying fibroma) is the peripheral counterpart of the central cemento-ossifying fibroma. Peripheral ossifying fibroma (POF) is a lesion of the gingival tissues representing up to 2% of all oral lesions that are biopsied.<sup>10</sup>

The treatment of choice for POF is local resection with peripheral and deep margins including both the periodontal ligament and the affected periosteal component. In addition, elimination of local etiological factors such as bacterial plaque and tartar is required. The teeth associated with POF are generally not mobile, though there have been reports of dental migration secondary to bone loss.<sup>6,10</sup>

## CONCLUSIONS

POF is a slowly progressing lesion, the growth is generally limited. Many cases will progress for long periods before patients seek treatment because of the lack of symptoms associated with the lesion. A slowly growing pink soft tissue nodule in the anterior maxilla of an adolescent should raise suspicion of a POF.

Clinically it is difficult to differentiate between most of the reactive gingival lesions particularly in the initial stages and the tissue has to be histologically examined for confirmation.

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