

## Diagnostic Approaches and Management of Reactive Fibrous Growths of Gingiva – Report of Two Cases

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DOI: [10.36348/sjodr.2021.v06i11.004](https://doi.org/10.36348/sjodr.2021.v06i11.004)

| Received: 17.10.2021 | Accepted: 20.11.2021 | Published: 27.11.2021

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### Abstract

Fibrous epulis or peripheral fibroma and ossifying fibrous epulis or Peripheral Ossifying Fibroma (POF) belong to reactive fibrous overgrowth gingiva results from a long-standing chronic local irritation. They resemble clinically similar but with different histological and radiological presentations. In this paper, two case reports of reactive fibrous overgrowths are discussed along with their management. The first case is a 27-year-old female patient who had a growth in the labial aspect of the gingiva of the upper incisors. The second case was a 37-year-old male patient who had a growth in the gingiva's buccal aspect about the right canine and first premolar.

**Keywords:** Epulis, Gingival diseases, Ossifying Fibroma, Diagnosis, Gingival overgrowths.

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### INTRODUCTION

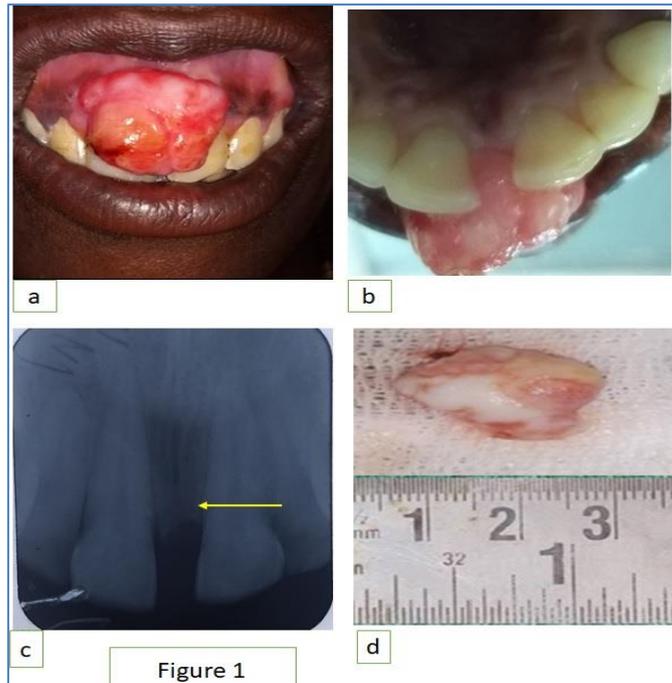
Reactive overgrowths of gingiva are most common due to responses from chronic local irritations or trauma. Epulis is a term used to notify any growth on the gingiva. [1] The commonly occurring reactive lesions include Irritation fibroma, peripheral giant cell granuloma (PGCG), pyogenic granuloma, peripheral ossifying fibroma (POF), Epulis fissuratum, and inflammatory papillary hyperplasia [2]. POF occurs exclusively in the gingiva, and their pathogenesis remains uncertain. It appears as a nodular mass that is either sessile or pedunculated [3] Based on a study report of 3000 cases, the prevalence of these reactive lesions of gingiva is peripheral fibroma being the most common (56 – 61%), followed by the pyogenic granuloma (19 – 27%), peripheral ossifying fibroma (10 - 18%), and peripheral giant cell granuloma (1.5 – 7%) [4].

This paper will focus on 2 case reports of localized gingival overgrowths with their clinical, radiological, and histopathological features, which

differentiates these lesions exclusively from one another.

### CASE REPORT 1

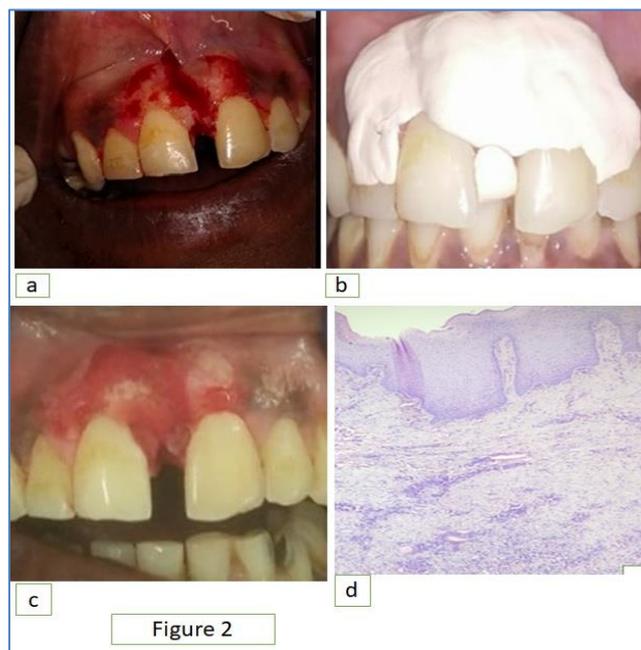
A 27-year-old female patient reported to the Department of Oral Medicine and Radiology with a chief complaint of growth present in the gingiva of the upper front teeth region for the past 2 years. On eliciting the history, the growth was smaller in size and slowly progressed to the present size. On clinical examination, the patient had a deep bite and midline diastema. Her oral hygiene status was compromised. A growth approximately measuring 1.5x1.5 cm was present in the labial aspect of gingiva of 11, 21, which was pink in color and the surface appearing with varying degrees of erythema and ulceration. On palpation, the growth was non-tender, sessile, freely mobile, and firm in consistency. It was attached to the interdental region of 11,21. There was no bleeding on provocation, and no mobility of the teeth elicited. Intra Oral Periapical radiographically revealed mild interdental bone loss between 11 and 21 with midline diastema [figure 1].



- a) Growth in the facial aspect of 11,21.
- b) Palatal view of the growth
- c) Arrow mark indicates interdental bone loss between 11 and 21
- d) Excised specimen

By evaluating the clinical and radiological features, a provisional diagnosis of Reactive inflammatory overgrowth and probably fibrous epulis was given. Differential diagnosis of Pyogenic granuloma, Peripheral Ossifying Fibroma, Peripheral Giant Cell Granuloma was considered. After obtaining the patient consent, she was planned for surgical

excision. Under the infiltration technique, local anesthesia was administered. The growth was surgically excised, and thorough curettage was done to remove the granulation tissue. Adequate hemostasis was achieved, and Coe Pak periodontal dressing was placed in the operated site to control bleeding and promote wound healing. Then the excised specimen was sent for histopathological examination. HPE revealed parakeratinised stratified squamous epithelium of variable thickness. The epithelium was ulcerated in few areas. The underlying fibrous connective tissue shows chronic inflammatory cells and blood vessels [figure 2], thus confirming fibrous epulis.



- a) Post-operative view
- b) Coe pak periodontal dressing given in the operated site
- c) post-operative healing after one week
- d) HPE in 10x view showing the underlying fibrous connective tissue with chronic inflammatory cells and blood vessels

## CASE REPORT 2

A 39-year-old male patient presented with single sessile growth in the buccal aspect of gingiva of the right lower alveolus region for the past 1 year. The history revealed, the growth was painless and slowly progressing to the present size. The growth was approximately 1.5 x1.5cm, with the surface appearing lobulated and pale pink in color on clinical

examination. The growth was present in the buccal gingiva of 43,44 region. Upon palpation, the growth was non-tender, sessile, freely mobile, and does not bleed on provocation. It was firm in consistency and attached to the interdental margin of 43,44. Radiographically, Occlusal radiograph revealed radiopaque flecks within the growth suggestive of calcifications. Based upon clinical and radiological findings, a provisional diagnosis of Peripheral Ossifying fibroma was given. After obtaining consent, the patient was planned for surgical excisional biopsy. Inferior Alveolar Nerve block was given, followed by surgical excision of the growth. Adequate hemostasis was achieved, and Coe Pak periodontal dressing was given in the operated site; the excised specimen was then sent for histopathological examination [Figure 3].

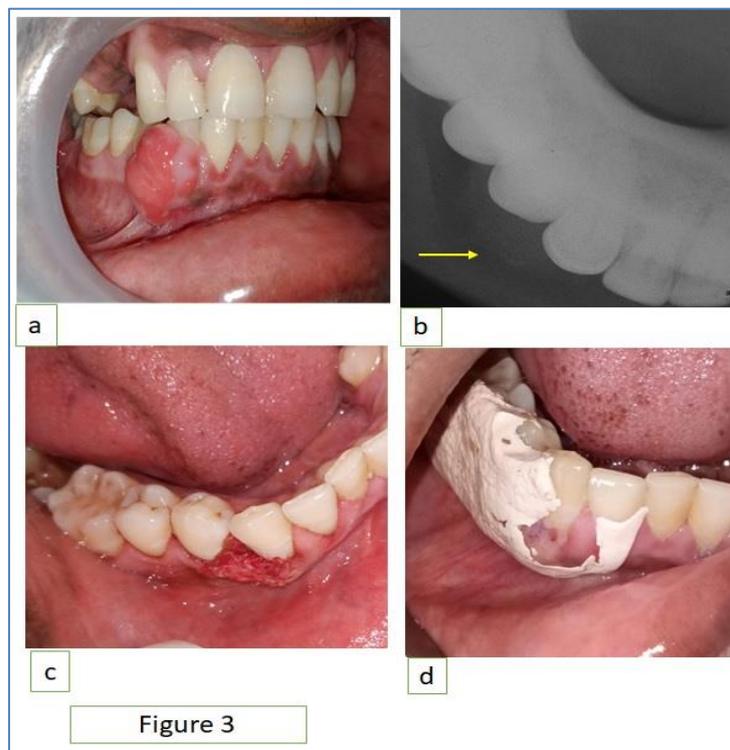
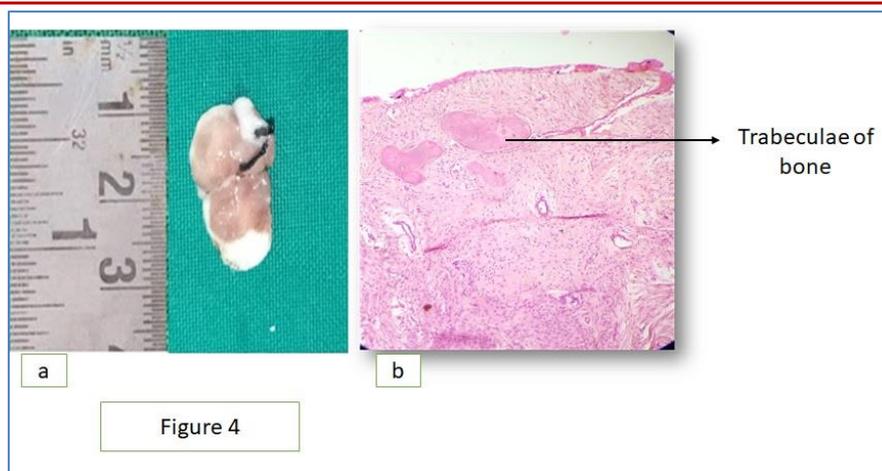


Figure 3

- a) Growth present in the buccal aspect of 43,44
- b) Arrow mark indicates radiopacities within the growth
- c) Post operative view
- d) Coe pak periodontal dressing in the surgical site

HPE examination revealed stratified squamous epithelium of variable thickness. The underlying

connective tissue consisted of dense bundles of collagen fibers, blood vessels, inflammatory cells, and trabeculae of bone suggestive of peripheral ossifying fibroma. [Figure 4]. Oral hygiene instructions were provided to both patients. They were recalled after 1 week for review. Wound healing was satisfactory. They are under follow up.



- Excised specimen
- HPE examination in 10x view revealed dense collagen fibrous connective tissue with trabeculae of bone.

## DISCUSSION

Virchow first coined the term epulis in 1864 [5]. Zheng gave various epulis classification and finally arrived at three main types: fibrous epulis, granulomatous epulis, and giant cell epulis [6]. Some authors claim that they relate to different developing stages of a single pathological entity; at the initial stages, it would be rich with vascular and cellular components while the fibrous content progressively increases over time [7]. The ossifying fibroma is categorized into two types: central and peripheral. The central ossifying fibroma arises from the endosteum. It expands from the bone's medullary cavity, whereas the peripheral type occurs on the PDL's soft tissues [8]. Eversole and Robin first used the term Peripheral Ossifying Fibroma. POFs consist of mineralized tissues may be bone, cementum-like material, or dystrophic calcification within a matrix of cellular fibroblastic tissue [9]. These growths have a high growth rate and recurrence rate. They are commonly noted in the maxilla, and their size ranges from 0.5 to 1.5 cm [10], but studies have shown giant lesions that cause a mystery in clinical diagnosis.

The differential diagnosis includes Pyogenic Granuloma and Peripheral Giant Cell Granuloma. Pyogenic granulomas are soft masses with the color varying from deep red to reddish-purple. No specific radiological findings will be present, and histopathologically, the bulk of the lesion is composed of a solid endothelial proliferation of capillary sized blood vessels [11]. PGCG manifests as a firm, bright sessile, or pedunculated mass. The prevalence is more in women than men, and the mandible is the predominant site. Histologically PGCG contains numerous multinucleated osteoclast-like giant cells in a cellular and vascular stroma [12]. Our first case was a firm mass, and the radiograph did not reveal any

radiopacities within the growth. The histopathological examination did not reveal any multinucleated giant cells, thus excluding pyogenic granuloma, POF, and PGCG. In our second case, the radiograph showed radiopacities within the growth, and HPE showed bony trabeculae, thus confirming POF. Surgical excision is the treatment of choice in all cases and the removal of irritating factors.

## CONCLUSION

Clinical, radiological, and histological findings must be correlated and explored for differentiating these reactive lesions from one another since most of them represent clinically similar. The chances of recurrence are also present in a few cases, emphasizing the need for the patient's follow-up in such cases.

## ACKNOWLEDGEMENTS

We sincerely acknowledge the Department of Oral and Maxillofacial Pathology, for providing the histopathological report.

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