



# CALCIFYING FIBROBLASTIC GRANULOMA: A CASE REPORT

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## INTRODUCTION

Calcifying fibroblastic Granuloma (CFG) is a solitary growth on the gingiva thought to originate from the periodontal ligament. The most common site is the anterior maxilla especially the incisor-canine region<sup>1</sup>. The definitive diagnosis is only established by histopathological examination where calcified islands, presumed to be bone are seen<sup>2</sup>. CFG may occur at any age, but exhibits a peak incidence between the second and third decade, with females being more affected than males<sup>3</sup>. Treatment consists of elimination of etiological factors, scaling of adjacent teeth and total aggressive surgical excision along with the involved periodontal ligament to minimize the possibility of recurrence<sup>4</sup>.

## CASE REPORT

A 11 year old girl was referred to the Paediatric Dental Department of Kajang Hospital with a complaint of a persistent mass over her upper anterior region of oral cavity. The lesion was gradually increasing in size and bleeds easily. She had been to a private practitioner and was prescribed antibiotics and a chlorhexidine-based mouthwash but no improvement was noted. Patient had no known medical condition and no history of trauma.

Clinical examination of the oral cavity revealed a nodular mass on the interdental gingiva in relation to the upper right central and lateral incisor. On palpation, a sessile soft tissue growth measuring 5mm laterally and 8mm in the anteroposterior region of 12 and 11 involving the labial and palatal aspect of both teeth (Figure 1 &2). The overlying mucosa was normal in appearance, lobulated with no pus discharge and no displacement of teeth. An Intraoral Periapical Radiograph (IOPA) revealed no root resorption on 11 and 12 (Figure 3). A provisional diagnosis of pyogenic granuloma was made. Localized scaling and debridement was done under local anaesthesia and an appointment was given for a review in 1 month.



Figure 1 :Clinical presentation



Figure 2: Lesion from palatal aspect



Figure 3 : IOPA of affected teeth

At the review, it was noted that the swelling had increased in size and bled easily. The lesion had spread to involve 1/3 of the labial surface and was reddish and ulcerated (Figure 4).

No changes were noted on the IOPA. A differential diagnosis of pyogenic granuloma, CFG and giant cell granuloma were made.



Figure 4 : Lesion at 1 month

## HISTOPATHOLOGICAL EXAMINATION & DIAGNOSIS

An excisional biopsy was performed under general anesthesia and an unencapsulated lesion was removed in 2 pieces, followed by deep curettage of the surrounding area which resulted in extensive bleeding. Hemostasis was achieved with compression and the excised tissue sent for histopathological examination to the Institute of Medical Research, Kuala Lumpur.

The excised specimen consisted of 2 mucosal nodules, the largest measuring 10x10x5mm and surrounding soft tissue measuring 10x5x5mm, bisected. Microscopic analysis of the submitted tissue with hematoxylin and eosin stained section demonstrated a mucosal mass composed of fibrocellular tissue with scattered acellular calcification and foci of osseous metaplasia. A moderate focal infiltration of lymphocytes and plasma cells and some polymorphonuclear leucocytes is seen. There is surface covering of stratified squamous epithelium with evidence of ulceration covered by pyogenic membrane. Based on the histopathological examination, a final diagnosis of calcifying fibroblastic granuloma was made.

Microscopic examination show mucosal masses (Figure 5) having a fibrocellular stroma with focal areas of osseous metaplasia (Figure 6).



Figure 5

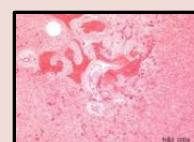


Figure 6

## POST-OPERATIVE REVIEW

The patient is on regular follow-up for the past 6 months; namely 2 weeks post-op, 1 month and at 3 months. No signs of recurrence were noted until the 6<sup>th</sup> month. At 1 month post-op, the space between 11 and 12 left behind post-excision is considerably much narrower (Figure 7). The space had disappeared completely after 6 months.



Figure 7 : Space closure between 11 and 12

At the 6<sup>th</sup> month follow-up, there appeared to be a recurrence. A lesion measuring 2mm by 3mm was found in relation to the upper right central incisor (Figure 8). Patient did not complain of any pain/or discomfort . A deep excision and curettage was carried out under local anaesthesia and at a 1 week review post-op, the lesion had healed completely.



Figure 8 : Recurrence of lesion

## DISCUSSION

Calcifying fibroblastic granuloma has been given many synonyms, such as epulis, peripheral ossifying fibroma, peripheral cementifying fibroma and peripheral fibroma with osteogenesis<sup>1</sup>. The ethiopathogenesis of CFG is unclear, trauma or local irritants such as subgingival plaque, calculus, dental appliances, poor-quality dental restorations, microorganisms, masticatory forces and iatrogenic factors all influence the development of the lesion<sup>5</sup>. Hormonal influences may play a role, as it has higher incidence among females, increasing occurrence in the 2<sup>nd</sup> decade and declining incidence in the 3<sup>rd</sup> decade<sup>6</sup>. The radiographic features may range from no changes, as seen in the present case to destructive changes<sup>6</sup>.

Considering the size of the lesion and details the plain radiography provides, additional imaging studies are rarely required<sup>6</sup>. Diagnosis of CFG based only on clinical aspects can be difficult and histopathological examination of the specimen by excisional biopsy is mandatory for accurate diagnosis<sup>3</sup>.

Although most of the lesions are usually <1.5cm, as shown in the present case, the occurrence of this lesion in children can exhibit an exuberant growth rate and reach significant size in a relatively short period of time<sup>3</sup>.

The teeth associated with CFG are generally not mobile although there have been reports of secondary migration due to bone loss<sup>7</sup>. The treatment of choice is local resection with peripheral and deep margins including the periodontal ligament and the affected periosteal component<sup>10</sup>. Thorough root scaling of adjacent teeth and/or removal of other sources of irritants should be accomplished<sup>8</sup>.

In cases complicated by recurrence, re-excision is generally successful with the retention of associated teeth<sup>11</sup>. Long-term post-operative follow-up is extremely important because of the high growth potential of the incompletely removed lesion and a relatively high recurrence rate of approximately 20%<sup>4</sup>.

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