

CASE REPORT

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## CONGENITAL GIANT CELL FIBROMA – A CASE REPORT

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### Abstract

**Background:** This paper aims to report a rare case of congenital giant cell fibroma (GCF). To the best of our knowledge, this is the first reported case of GCF in new-born. **Case Report:** A healthy one-month-old baby boy was referred to Department of Paediatric Dentistry for management of swelling on the upper left alveolar region which presented since birth. Clinical examination demonstrated a well define firm swelling over the upper left alveolar ridge, otherwise the swelling was asymptomatic. Patient was monitored periodically. At 1 year and 9 months of age, there were episodes of ulcerations and bleeding from the lesion as a result of trauma from eruption of opposing teeth. Surgical excision of the lesion was carried out under general anaesthesia. The histopathological examination (HPE) report interpreted the lesion as GCF. **Conclusion:** GCF is rare fibrous lesion that could be diagnosed only on HPE. Although it is an uncommon congenital lesion, GCF should be considered as one of differential diagnosis of swelling over the gingiva.

### Keywords:

Giant Cell Fibroma; Congenital Lesion; Alveolar Ridge

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### Introduction

Giant cell fibroma (GCF) is a rare case with unique histopathology features; a lesion that is specifically distinguished by the presence of stellate/giant cells [1]. It was first described as a distinct entity by Weathers and Callihan in 1974. GCF is a tumour originated from fibrous connective tissue which predominant in Caucasians and infrequent in children under the age of 10 [2,3]. Clinically, GCF usually presents as asymptomatic, less than 10 mm in diameter, sessile or pedunculated nodule with normal overlying mucosa [1,2,4].

This paper presents an unusual case of congenital GCF in a Malay newborn baby. To the best of our knowledge, this is the first reported case of the condition in the new-born [3,5]. This case was managed by surgical excision.

### Case report

#### History

A healthy one-month-old, Malay baby was referred to Department of Paediatric Dentistry by

general dental practitioner for management of swelling on the upper left alveolar ridge which present since birth. Mother reported that the swelling was asymptomatic, the size remained the same since first noted and no interference with feeding.

#### Clinical examination

Clinical examination demonstrated a well-defined, sessile, 15 mm x 15 mm, firm swelling over the upper left alveolar ridge, otherwise the swelling was asymptomatic. The overlying and surrounding mucosa appeared normal.

#### Clinical diagnosis

A clinical diagnosis of congenital epulis was made based on history and clinical findings.

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*Case progress*

Patient was monitor periodically for spontaneous regression. The swelling remained asymptomatic with no changes in size was noted. The boy, however, at 1- year- 9- months-old presented with multiple episodes of ulcerations and

bleeding from the lesion as a result of trauma from eruption of opposing teeth.

*Treatment*

The lesion was excised under general anaesthesia (Fig 2-4). No post-operative complications were noted and the healing process was uneventful.



Figure 1. Lesion on the upper left alveolar region

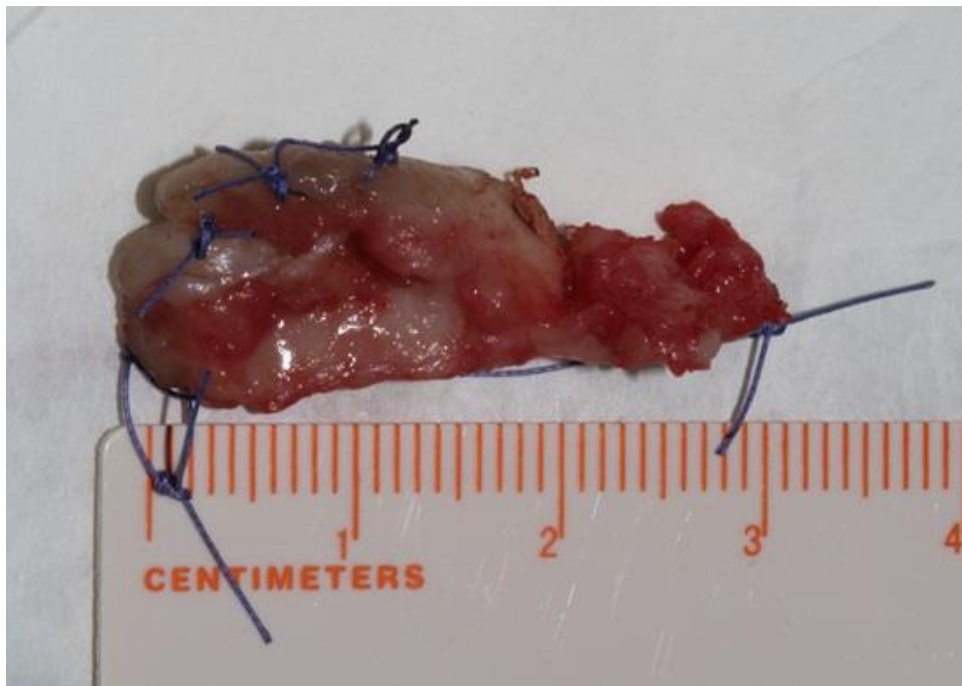


Figure 2. Excised lesion



Figure 3: Immediate post excision of the lesion



Figure 4: Post operative

*Histopathological examination*

Histopathological examination revealed mucosal mass composed of immature, fibro-collagenous and cellular connective tissue covered by acanthotic and hyperplastic parakeratinised stratified epithelium. The bulk of fibrous connective tissue is mainly contained numerous large stellate-shape fibroblasts. These fibroblasts were mostly multinucleated.

There are a few clusters of odontogenic epithelial cell rests and mild chronic inflammatory cell infiltrates seen (Fig 5-6).

The HPE features were consistent with GCF.

*Final Diagnosis*

Diagnosis of giant cell fibroma was made based on histological features of the lesion.

*Follow up*

The patient has been followed up for a year since then without recurrence of the lesion.

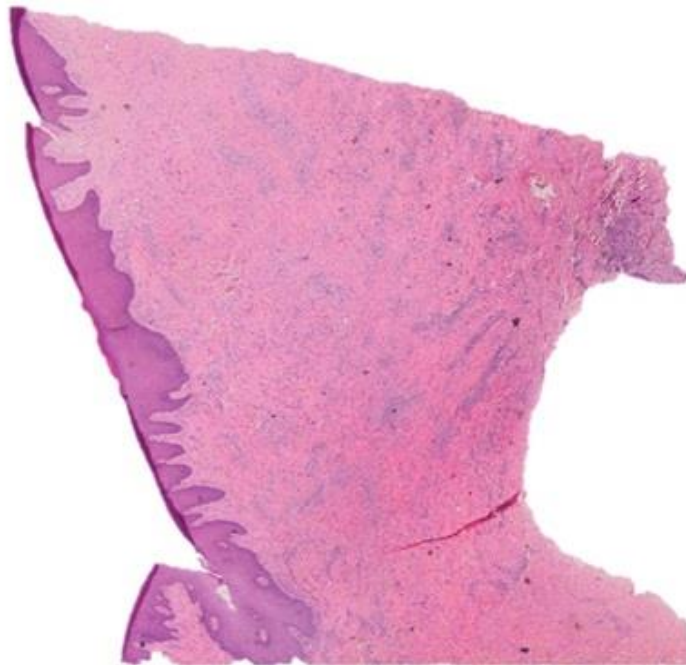


Figure 5. The photomicrograph shows soft tissue with surface covering of parakeratinised stratified squamous epithelium and underlying fibrous connective tissue ( H and E, 1X)

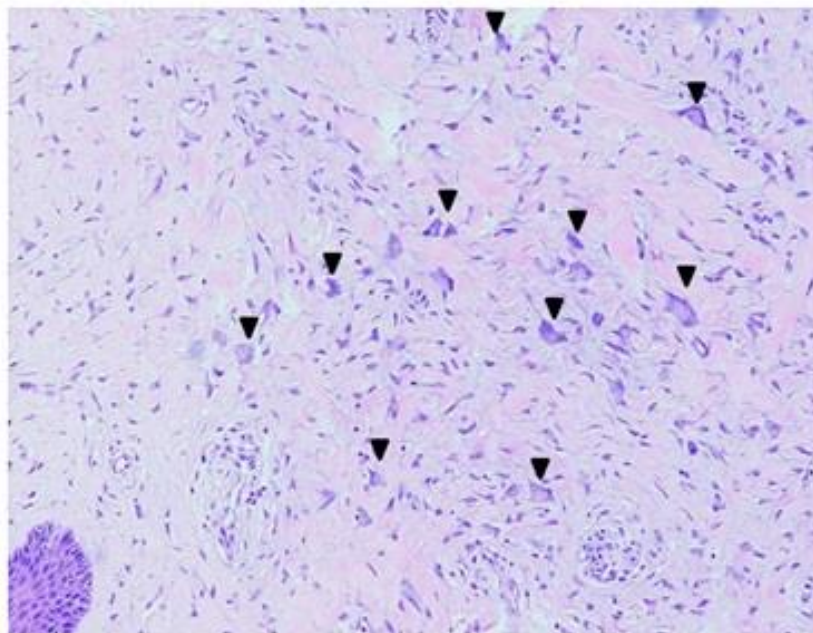


Figure 6. The photomicrograph highlights the multinucleated fibroblasts (H and E, 10X)

## Discussion

In this case, a clinical diagnosis of congenital epulis was made based on the history and clinical presentation of lesion. At early stage, surgical intervention was not considered given the absence of feeding and breathing difficulty. The lesion, however, became symptomatic due to trauma from eruption of opposing primary molars thus prompted for excision of the lesion under general anaesthesia. Histopathological examination revealed that the lesion was a giant cell fibroma instead of congenital epulis. The similarity of the history and clinical feature of the lesion in this case has led the clinicians to come with a clinical diagnosis of congenital epulis. In hindsight, we should consider earlier surgical intervention i.e. biopsy or surgical excision when there was no sign of resolution of the lesions as congenital epulis should be [15].

Giant cell fibroma of oral cavity is rare in Asian population and in children. Recent literature review of four largest published series of GCF demonstrated that GCF was predominant in Caucasians [3]. It is uncommon lesion among young children with only 4 – 17% of GCFs have being found in 1st decade of life. The mean age of patient presented with GCF was 29 years old [8]. The youngest child reported presented with GCF in the literature was 17- months-old African-American girl [3,5]. As such, this is the first

reported case of congenital GCF in the population. In general population there is no predilection for GCF [6,7], in children however, most reported cases were in girl [3] though our patient was a boy.

The differential diagnosis of oral mucosal-colored lesion in neonates will includes congenital epulis, oral teratoma and choristoma. All these lesions can be determined histologically. Congenital epulis is a rare benign soft tissue lesion that almost characteristically occurs on the alveolar ridge of the newborn [4,15,17]. Teratoma on the other hand is a true neoplasm composed of tissue derived from all three germinal layers [11]. Oral teratoma or epignathus in neonates is usually benign and presented as progressive oral mass often in palate or mandible [12]. Choristoma refers to cohesive tumor-like mass consisting of histologically normal tissue in an abnormal location [13]. It is most commonly occurs at tongue and floor of mouth [12].

GCF has unique histopathological features and was first reported by Weathers and Callihan in 1974 as a separate entity among fibrous hyperplastic soft tissue lesions. Immunocytochemical and immunohistochemical studies have shown that the multi-nucleated giant cells in GCF are derived from fibroblastic

lineage [13,14]. It is, however, unclear whether GCF unique appearance represents functional or degenerative changes [13]. GCF is characterized by the presence of numerous large stellate and multinucleated giant cells in a collagenous stroma of varying density. The giant cells are usually seen numerous in the connective tissue in close proximity to the epithelium. These giant cells have well-defined cell borders and show dendritic processes. In some instances, an artificial space which separates the giant fibroblasts from the surrounding fibrous stroma may present. The overlying epithelium is hyperplastic with thin elongated rete ridges. Inflammatory infiltrate is usually absent though in our case the ulceration may contribute to the presence of such cells in the specimen. GCF has similar histological features with retrocuspid papilla [16], the latter, however, was ruled out as the current lesion presented at upper left alveolar region.

GCF does not regress spontaneously because of the excessive collagenous tissue. If the lesion is left untreated it may continue to proliferate [1] with limited growth potential due to its benign nature [9]. As such, the management of GCF is by surgical excision [2]. GCF does not usually recur after excision though recurrence has been reported in a few instances following incomplete excision [2]. Therefore, recall visits are prudent to ensure absence of recurrence.

### Conclusion

Giant cell fibroma is an uncommon lesion among young children especially in newborn. Health care professional, however, should be aware of giant cell fibroma and must be included in the differential diagnosis of congenital swelling of the oral cavity. Surgical intervention should be considered if there is no resolution of the lesion to confirm the clinical diagnosis of such lesion.

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