GIANT CELL FIBROMA: CASE PRESENTATION ON PALATE-A RARE SITE OF LOCATION IN A 16-YEAR-OLD BOY

Nutan Tyagi[1] ,Geetpriya Kaur[2] Adma Khan[3] ,Sneha Upadhyay[4]

1. Professor, Department of Oral Pathology and Microbiology, Institute of Dental Studies and Technologies, Modinagar
2 .Reader, Department of Oral Pathology and Microbiology, Kalka Dental College, Meerut
3. PG Student, Department of Oral Pathology and Microbiology, Institute of Dental Studies and Technologies, Modinagar
4. PG Student, Department of Oral Pathology and Microbiology, Institute of Dental Studies and Technologies, Modinagar

ABSTRACT

Giant cell fibroma is a fibrous mass having distinctive histopathological features. It may occur at any age mostly in young age mostly in the mandibular gingiva, showing female predilection. This article reports a case of Giant cell fibroma in a 16-year young boy on palate in the upper right back tooth region between 1st and 2nd premolar, slowly increasing in size, since the last 6 to 7 months, which is a rare location for this lesion. On Clinical examination, a sessile growth was seen in the hard palate. It was large, irregular in shape, reddish pink in colour and non hemorrhagic with size measuring 3cm*3cm. The lesion was strongly felt and fibrosis was observed with rough and uneven surface. As found, the treatment for Giant cell Fibroma is a surgical excision with good prognosis.

Keywords: Giant cell, Fibroma, Fibroblasts, Hyperplasia, Stellate cells, Giant cells

INTRODUCTION:

The giant cell fibroma is a non neoplastic lesion with an unusual fibrous mucosal mass having several unique features distinguishing it from other fibrous hyperplasia[1]. Giant cell Fibroma is given such name on the basis of large stellate and multinucleated fibroblasts present in the lamina propria near the epithelium. [2,3,4]. It was first reported by Weathers and Callihan in 1974[2].

Oral fibrous proliferation includes giant cell fibroma up to 2-5 % (approx.). Hypothesized to have a viral etiology earlier, then stimulus of unknown origin in giant cell fibroma was found to initiate the lesion [5.]

Giant cell fibroma lesion is likely to be seen among the young[4].

Giant cell fibroma manifests typically as an asymptomatic sessile or pedunculated mass[1] which is wrongly diagnosed for other growths like pyogenic granuloma, fibro epithelial polyp and fibroma[6] but it can only be diagnosed properly based on its distinctive histopathology.

It is seen high in Caucasians with a slight female predominence[4,7]. Common site of occurrence is seen in Mandibular gingiva.[4,7,8]. The other sites are the apex and lateral border of the tongue, palate, buccal mucosa, lip and floor of the mouth.[2,8,9]. Histopathologically the giant cell fibroma is covered with stratified squamous hyperplastic epithelium and is non inflammatory encapsulated mass of loose fibrous connective tissue[1,4,10]. Due to the presence of stellate-shaped ,large spindle-shaped, , and mononuclear and multinucleated fibroblasts provides main diagnostic feature of this lesion. Large vesicular nuclei with prominent nucleoli with wee demarcated cytoplasm is seen in these stellate cells. Sometimes dendritic

Corresponding Author: Dr **Nutan Tyagi** Email: dr.nutan1982@gmail.com

processes were also observed. Melanin granules has been seen with cellular boundaries seem to be separated from the surrounding collagen fibers in some of these cells[1,4,10]. Diagnosis of giant cell fibroma can simply be performed by histopathological examination[11,12].

Herewith, we report a case of Giant cell fibroma of palate in a 16-year-old male Patient between 1st and 2nd premolar.

CASE REPORT

A 16-year-old young boy reported with the chief complaint of growth in the upper right back tooth region between 1st and 2nd premolar, slowly increasing in size, since the last 6 to 7 months. There was no history of pain or discharge but patient complained of discomfort and was experiencing problem in speech and eating. On oral examination, a sessile growth was seen in the hard palate. It was large, irregular in shape, reddish pink in colour and non hemorrhagic with size measuring 3cm*3cm. The lesion was fibrotic and firm with rough and uneven surface as shown in (*Figure 1).*

The lesion was surgically incised and sent for histopathological evaluation. Histopathological inspection of the haematoxylin and eosin-stained sections revealed a well encapsulated growth with a fibrous connective tissue which is covered by a keratinized stratified squamous epithelium with elongated and thin rete ridges (*Figure 2).* Moderate amount of basophilic cytoplasm and large nuclei were seen in the juxta epithelial zone with dendritic processes is seen in many stellate shaped cells. (*Figure 3*). Thus, numerous giant cells are seen in stroma near surface epithelium. Based on these histopathological features the growth was diagnosed as Giant cell fibroma.

DISCUSSION

The giant cell fibroma is a benign fibrous tumor and is mostly present in the second and third decade of life[11,13,14]. Giant Cell Fibroma is a rare fibrous hyperplasic lesion that is diagnosed only on the basis of histopathological examination. Due to prolonged chronic irritation, it becomes a reactive lesion[14] and is associated by functional changes in the fibroblastic cells[15]. The Giant cell fibroma is more commonly present in Caucasians; other races are rarely involved with slight female predominance [4,7]. Most commonly gingiva is affected with tongue being the second most common location, followed by the buccal mucosa or palate[8,9]. Usually it appears as an asymptomatic, pedunculated or sessile lesion with a bosselated or pebbly surface [16].

Histopathological, Numerous large stellate and multinucleated giant cells are present in collagenous stroma in connective tissue immediately near epithelium. The epithelium covering the giant cell fibroma is hyperplastic with long and thin reteridges. Dendritic processes with well-defined cell borders are seen in Giant cell Fibroma.[1,4,10]. Presence of small brown granules having staining characteristics of melanin are present in cells which are located close to epithelium.[17]

Immunohistochemistry gives the exact nature of these cells in giant cell fibroma. Among the different histochemical markers, the neurofilament, HHF, leukocyte common antigen CD68, cytokeratin, HLA-DR, tryptase, S-100, vimentin, and desmin, the giant fibroblasts

show positivity to only vimentin suggesting a fibroblastic origin[5]. The negative reactivity of giant cells for desmin eliminates the possibility of a myofibroblastic phenotype[5,18]. Immunostaining with Ki-67 and PCNA reveals negative reactivity with Ki-67, whereas PCNA shows variable expression, suggesting their formation from differentiated mononuclear cells[19,20].

The provisional diagnosis of GCFs are often mistaken for papilloma or fibroma because of their papillary surface and fibrous or elastic nature[4,14], respectively but microscopic features clears and provide a clinician the final diagnosis of giant cell fibroma.

The current case highlights the presence of a large lesion on the palate in a young boy. A large lesion at this site is a rare finding and thus brings to light a special case, warranting interest.

CONCLUSION

Giant cell fibroma is a benign lesion and may continue to grow unless source of irritation is removed. Early diagnosis and treatment is important. Giant cell fibroma has distinct histopathological features as the presence of giant cell fibroblasts distinguishes it from irritational fibroma and papilloma.

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FIGURES:

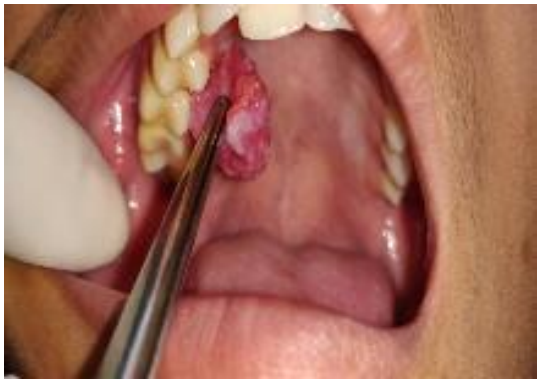

Figure 1: Sessile lesion on the hard palate, in association with premolars.

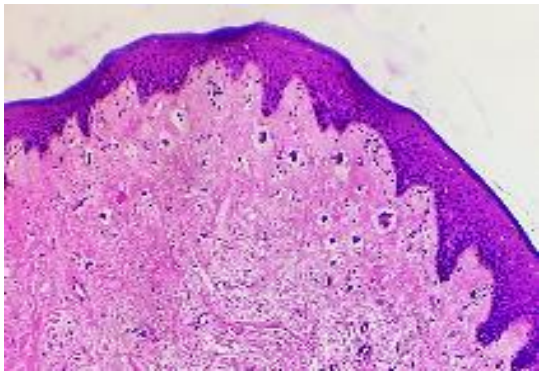

Figure 2: Photomicrograph showing dense collagen fibers with giant cell present near the surface epithelium with elongated thin rete ridges (Haematoxylin and Eosin stain, magnification X 100).

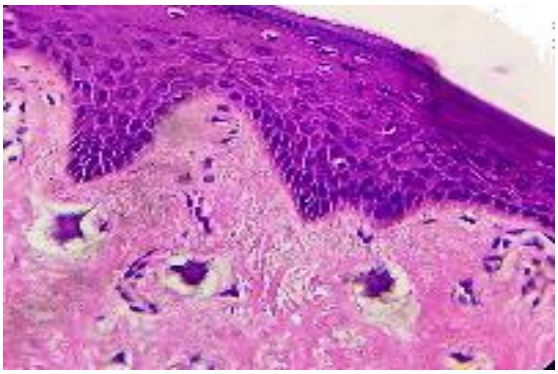

Figure 3: Photomicrograph showing stellate shaped cells (Haematoxylin and Eosin stain, magnification X 400).