Research Paper Pathology

Giant Cell Fibroma of Hard Palate- A Case Report

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ABSTRACT

Giant Cell Fibroma(GCF) is a relatively rare fibrous hyperplasic lesion. It represents approximately 0.4 - 1% of total biopsies and 2 - 5% of all fibrous lesions submitted for biopsy. It can be diagnosed on histopathological examination and is named so because of the characteristic cells present within the fibrous stroma of the lesion.It is usually less than 1cm in diameter and frequent sites being gingiva, followed by the tongue and the buccal mucosa. Extensive work up is mandatory for making an accurate diagnosis and for proper treatment planning, for a better outcome.This case is reported for its rare occurrence, larger size and uncommon location.

KEYWORDS giant cell fibroma, hard palate, histopathology.

Introduction

Giant Cell Fibroma(GCF) is a relatively rare fibrous hyperplasic lesion[1,2]It represents approximately 0.4 - 1% of total biopsies and 2 - 5% of all fibrous lesions submitted for biopsy.[1-9]It can be diagnosed on histopathological examinationand is named so because of the characteristic cells present within the fibrous stroma of the lesion.[8] It is usually less than 1cm in diameter [2,3,5,8,10-12]and frequent sites being gingiva, followed by the tongue and the buccal mucosa.[2,10,11] This case is reported for its rare occurrence, larger size and uncommon location.

Case report

A 23 year-old lady presented with a nodular lesion on the hard palate. The patient was apparently well 6 months back when she noticed a small swelling which gradually increased in size. There was no history of trauma. There was no history of pain or discharge from the swelling and no difficulty in speech. Medical history was uneventful.On oral examination, a peduculated masswas seen on the anterior aspect of hard palate. It was firm, mobile, non-tender, soft tissue nodule measuring 3 cm across. The mass did not bleed on touch.The rest of the oral mucosa was normal(figure 1). Based on these findings, the differential diagnosis was traumatic fibroma and pyogenic granuloma.



Figure 1 – Photograph of GCF of hard palate

Incision biopsy was done. The gross specimen was single grey-white to grey-pink piece of tissue measuring 1.2x1x0.2 cm. Entire tissue was processed.Microscopic examination revealed fibrocollagenous connective tissue with dispersed large stellate giant cells and few multinucleated giant cells. The overlying keratinized stratified squamous epithelium showed elongated rete ridges. (figure 2)

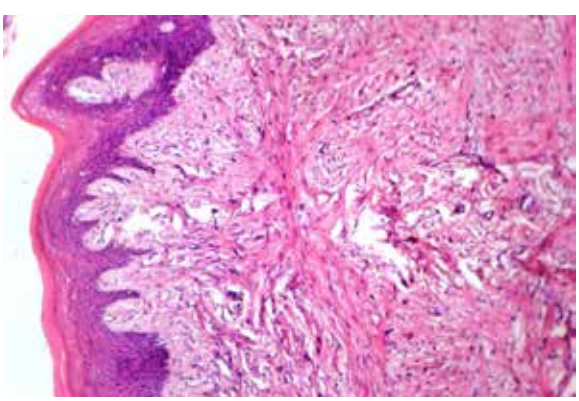


Figure 2.photomicrograph showing multiple stellate cells dispersed in a fibrous connective tissue stroma along with elongated epithelial rete ridges (hematoxylin and eosin stain, original magnification x400).

Discussion

The giant cell fibroma is rare and interesting non-neoplastic lesion of the oral mucosa.Weathers and Callihan in 1974examined more than 2,000 specimens in a group of fibrous hyperplasias. Out of these 108 met their criteria for this "new" lesion which they called GCF. The name alludes for the presence of characteristic large, stellate-shaped, mononuclear and multinucleated giant cells.[2,13]Before Weathers' and Callihans' distinction of GCF, Eversole and Rovin compared and contrasted 279 fibrous hyperplastic gingival lesions, which fell into four categories: Pyogenic granuloma, peripheral gingival fibroma, peripheral giant cell granuloma, and peripheral ossifying fibroma. Each has its own diagnostic histopathologic characteristics but exhibit overlap of clinical presentation.[2,9,14]

Many reports, suggests GCFs are reactive lesions and that minor trauma can trigger its development. It is characterized by functional changes in fibroblastic cells. Possibility of viral aetiology was also made, but was not justified. Hence, they were believed to arise from a stimulus which was of unexplained origin.[2,9]

90 - 97% of GCF are reported in Caucasians.[2,3,5,6,8,9,15] GCF may develop at any age, but the highest incidence[60%] in the third decade of life.[3-6,8,9] There is no significant sex predilection .8[4]It may be often asymptomatic but may not be esthetic if present in the anterior region of the jaw. 9 GCF occurs frequently in gingiva(362/773, 46.8%) with mandible being most common site than maxilla(2:1 mandible to maxilla ratio however the maxillary gingiva has been reported as the most common location in children under the age of 10.[3-6,8,9,16,17]Other affected locations by descending order of frequency are the tongue, buccal mucosa, palate,lips and floor of the mouth.[2-5,8] Clinically, they may be sessile or pedunculated, with a pebbly surface and normal coloration .[3,5,8,9,16] It is usually less than 1cm in diameter and can be a longstanding lesion.[3,5,6-8] In our patient the lesion was located on hard palate and 3 cm in size which is rare. The histological features of GCF include the presence of spindle and stellate shaped fibroblasts with delicate dendritic-like processes and one, two or multiple nuclei.[3,4,5,8] The stroma consists of fibrous connective tissue 5 The overlying epithelium is usually thin with narrow and elongated rete pegs.[3,-5,8,9,18]

Immunohistochemistry results have shown that giant fibroblastsare positive for vimentin only and negative for cytokeratin, neurofilament, HHF,CD68, HLA DR, tryptase, Leukocyte common antigen and S-100 andDesminJimson S et al found positivity for PCNA, with variable staining intensity andnegativity for Ki-67.[9]

The treatment of choice for GCF is conservative surgical excision which is usually curative. Electrosurgery,Laser therapy with CO2, Nd:YAG, Diode, erbium lasers is another option5.The prognosis of GCF is good4howeverperiodic long term follow-up is required .Recurrences have been reported only in solitary cases]. If the lesion is left untreated it may continue to proliferate but its benign nature certifies limited growth potential.[3,5,8,9]

GCF resembles irritation fibroma, neurofibroma, papilloma and pyogenic granuloma, because there are no specific clinic features of it. The other differential diagnosis include peripheral ossifying fibroma, focal fibrous hyperplasia, peripheral odontogenic fibroma and odontogenic hamartoma.2,8,12

Conclusion

Giant cell fibroma mimics many soft tissue nodular lesions of oral cavity. Although itis a rare entity, less than 1cm in size and most common site is gingiva,it should be suspected even when the lesion is large and located in other sites of oral cavity. Extensive work up is mandatory for making an accuratediagnosis and for proper treatment planning, for a better outcome.

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