



Case Report

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Giant cell Fibroma of Tongue: Entity with unique histopathological features

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Abstract

Giant Cell Fibroma can present as a nodular growth in the oral cavity, representing approximately 2% to 5% of all oral fibrous proliferations. They can be best distinguished from other fibrous lesions by their typical histopathological features of presence of stellate shape fibroblasts. Here, we report a case of a 65-year-old female with a mass on the tongue and discuss its clinical and histopathological differential diagnosis.

Keywords: Giant cell fibroma, Fibroepithelial hyperplasia, Stellate shaped fibroblasts.

INTRODUCTION

Giant Cell Fibroma (GCF) is a fibrous hyperplastic lesion that presents as a nodule and can have a papillary appearance.^[1] Various entities can be considered in the clinical and histopathological differential diagnosis of this rare lesion. We report a case of a 65-year-old female with a mass on the tongue.

CASE REPORT

Patient reported complaining of a painful tongue upon chewing for 3 months. On clinical examination, a pedunculated mass of 0.5 x 0.5 cm was present on the left lateral border of the tongue (Figure 1). The mass was covered with normal oral mucosa and was firm in consistency. No sharp tooth was present intra orally. She had good general health with no significant findings in medical history. A clinical diagnosis of irritation fibroma was made. The mass was excised in total.

Excised mass revealed dense collagenous fibrous tissue made of haphazardly arranged dense fiber bundles. Underneath the parakeratinized stratified squamous epithelium large stellate shaped fibroblasts were seen. Artifacts spaces were visualized around the star-shaped fibroblasts. The overlying epithelium showed elongated and anastomosing rete ridges (Figure 2 and 3). Based on these findings, the diagnosis of giant cell fibroma was made.

DISCUSSION

GCF is common among the young, mostly reported in the first three decades. Majority present a bosselated or pebbly appearance; most commonly on the gingiva^[2]. In our case the lesion was smooth surfaced, seen on the tongue in an elderly patient. To distinguish giant cell fibroma from similar clinical lesions such as irritation fibroma and squamous papilloma, histopathology is inevitable.

Irritation fibroma occurs more commonly in old adults in the fourth to sixth decade of life and is more common in females. Given the aforementioned characteristics of Irritation fibroma our case was clinically diagnosed as Irritation fibroma but histopathological examination revealed presence of stellate fibroblasts which ruled out the same.^[3] Irritation fibromas are more common on buccal mucosa along the line of occlusion.^[1] Histopathologically irritation fibroma is associated with densely fibrous, pauci-cellular stroma;

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the stromal cells being bipolar fibroblasts with plump nuclei and fibrocytes with thin, elongated nuclei & minimal cytoplasm; surface epithelium is usually atrophic and may show signs of continued trauma [3].

Squamous papilloma of the tongue is not rare and can be confused clinically at times due to the pebbly appearance of GCF [1]. Histologically Squamous papilloma is differentiated by keratinized stratified squamous epithelium thrown into exophytic finger-like projections with thin fibrovascular connective tissue cores; koilocytes (virus altered epithelial cells) are sometimes seen high in the prickle cell layer.[3]

Histopathological differential with GCF is Retrocuspid papilla, a developmental anomaly, which shares similar features microscopically. Retrocuspid papilla shows connective tissue stroma with large stellate fibroblasts and occasional epithelial rests. Distinction between the two can be ascertained with the location of the lesion. Retrocuspid papilla occurs on the lingual gingiva adjacent to mandibular cuspids and is frequently bilateral. Due to its clinical appearance and characteristic location retrocuspid papilla does not warrant biopsy [1].

GCF of gingiva can be confused with peripheral ossifying fibroma that is found only in the gingiva, occurs more in females, and is thought to arise from the periodontal ligament. In our case we did not consider peripheral ossifying fibroma in our differential due to its location [1].

Microscopically, the GCF can be differentiated from a simple fibroma which shows stretched atrophic epithelium and spindle shaped fibroblasts. GCF shows hyperplastic epithelium with elongated rete ridges and giant-sized fibroblasts juxtaepithelialy, showing stromal retraction spaces around them. These retraction artifacts are rare in simple fibromas. The clefts may probably be due to the altered matrix deposition by the stellate shaped fibroblast to its immediate surroundings. Such artifactual clefts have been reported in fibrous dysplasia and peritumoral clefts in breast adenocarcinomas [2].

Most of these stellate shaped fibroblasts are mononuclear but a few of them revealed two large nuclei perhaps forming a syncytium. Usually, destructive cells are multinucleated; i.e, the osteoclasts, and macrophages. Fibroblasts are cells with dual function; therefore, the giant sized fibroblasts may be the cells with resorptive function presenting with large and at times multinucleated presentation [2].



Figure 1: Pedunculated mass on the left lateral border of the tongue

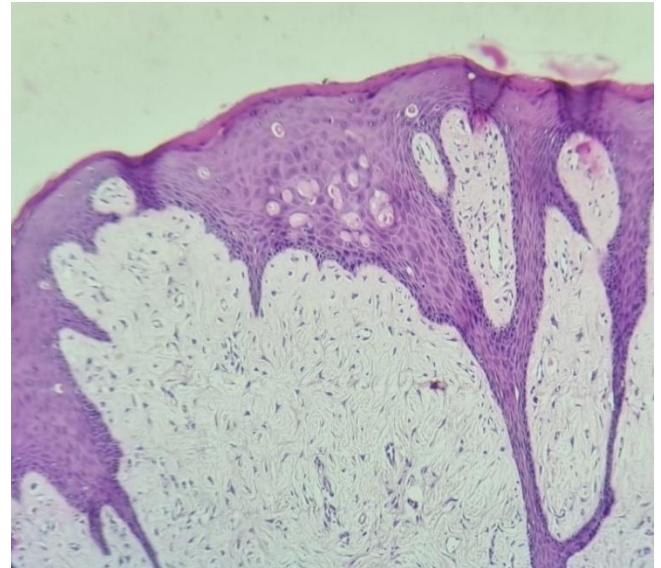


Figure 2: Photomicrograph showing a fibrous mass with overlying stratified squamous epithelium with elongated rete ridges. (Hematoxylin and Eosin, original magnification 4x)

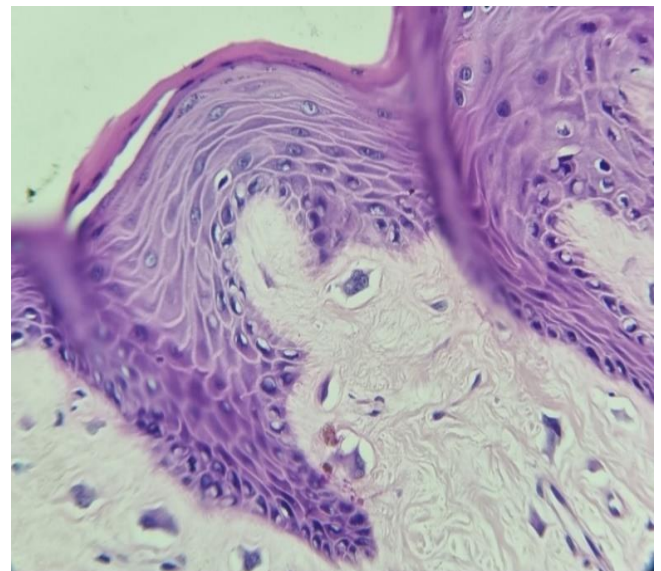


Figure 3: Photomicrograph showing giant fibroblasts with stellate shape underneath the parakeratinized stratified squamous epithelium with artifactual spaces around them. (Hematoxylin and Eosin, original magnification 40x)

CONCLUSION

In conclusion, most fibrous hyperplasias are relatively innocuous lesions and a provisional diagnosis can be based on clinical presentation, histopathological diagnosis is required in most cases to rule out the possibility of malignancy. GCF recurrence is very rare if completely removed.

Conflict of Interest

None declared.

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