

PLASMA CELL GRANULOMA OF GINGIVA – A CASE REPORT

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ABSTRACT

Plasma cell granuloma is a rare benign reactive lesion often considered by the name “Pseudoinflammatory tumor”.¹ The most common site of occurrence is lung, followed by brain, kidney, heart, and GIT. Head and neck sites are also involved with a considerable frequency. Oral cavity PCG is very rare in occurrence. Intraorally, it affects the tongue, and rarely gingiva.² PCG histopathologically shows abundant plasma cell component; thereby, they are often mistaken for plasmacytoma, and thorough knowledge of this lesion is significant. In this article, we present a case report of a 45-year-old male, with an enlargement in the maxillary anterior gingiva, which was diagnosed as PCG.

KEYWORDS: *Inflammatory Pseudotumor, Plasma Cell Granuloma, Gingiva, Plasma Cells*

INTRODUCTION

Plasma cell granuloma (PCG) has several other names like an inflammatory myofibroblastic tumor, inflammatory pseudotumor, fibrocystic inflammatory proliferation, xanthomatosis pseudotumor, benign miofibroblastoma, and spindle cell pseudotumor. In 1973 it was first described by Bahadori and Liebow, as an inflammatory pseudotumor affecting any soft tissue or organ-like lungs, vagina, and larynx.¹ In head and neck, most commonly involved sites are the orbit, paranasal sinuses, larynx, pterygomaxillary space, tonsils, and ears. Intraoral locations affected by PCG are tongue, lip, oral mucosa, periodontal tissues and rarely gingiva.³

World Health Organization (WHO) in its recent edition of classification of tumors of soft tissues and bone considered PCG as a synonym for inflammatory myofibroblastic tumor (IMT), but some authors represent PCG as a unique lesion with characteristic clinical and histological features. Also, few other authors propose PCG be a variant of IMT rather a synonym. The lesion's etiopathogenesis, biological behavior, and appropriate treatment are still unclear, and little is known about the prognosis.

Here, in this case, we hypothesized that its occurrence in gingiva might be due to the following factors like periradicular inflammation, periodontitis, or due to an antigenic cue. The most commonly considered treatment for plasma cell granuloma is a complete excision.²

Case Report

A male patient of age 45 presented to the department of oral medicine and radiology, with an enlarging, painless mass in the left upper posterior region for one year. The painless mass was insidious in onset and gradually attained present

size. No history of associated trauma was evident. Past medical and family history was nothing significant. Extra-oral findings were normal. On intraoral examination the lesion was sessile, round to oval in shape, with erythematous appearance, measuring 3 × 3 cms in size. The mas extended from the anterior mucogingival region involving 22, 23 and 24. On palpation, the lesion was non-tender, nodular, well-demarcated and firm inconsistency. Radiological features showed no resorption of the underlying bone. Routine laboratory investigations were normal. The lesion was provisionally diagnosed as a reactive benign lesion, and complete surgical excision was performed.

A well circumscribed, exophytic, non - tender, firm, oval mass of approximately 3cm diameter with pinkish-red color was located on the outer aspect of upper left anterior gingival.



Figure 1

Histopathologic Findings

The excised specimen was white in color and firm inconsistency. Microscopically the lesion revealed hyperplastic stratified squamous epithelium, with a focal area of ulceration. There was partially encapsulated with subjacent fibrous tissue. Inflammatory cells aggregation was noticed with interspersed collagen tissue. Under higher magnification, the cells were predominantly plasma cells with round to oval morphology and eccentrically placed nucleus. Plasma cells also revealed the classic cart-wheel arrangement. Pale eosinophilic droplets with pyknotic nuclei were present at the peripheral region of the lesion. They were considered as Russell bodies.⁴

The final diagnosis of plasma cell granuloma of gingiva was given based on clinical and microscopic features.

H & E pictures of the lesion under 40x showing aggregates of plasma cells with epithelium.

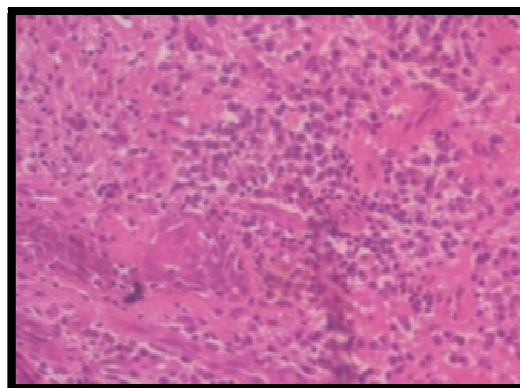


Figure 2

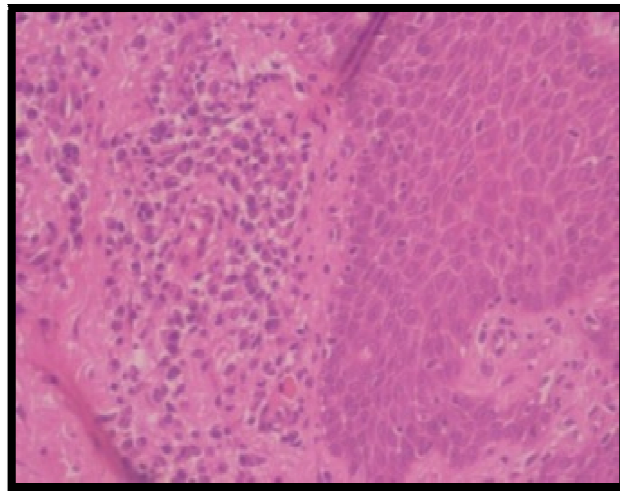


Figure 3

DISCUSSIONS

There are mostly different four types of tumors that are composed mainly of plasma cells- multiple myeloma, solitary myeloma, soft-tissue myeloma (plasmacytoma), and plasma-cell granuloma. The first two are tumors of bone, and the later are originated from soft tissues. Mandatory biopsy with histopathologic/immunologic studies must be performed to rule out potential plasma cell dyscrasias and neoplasms, including multiple myeloma. It is important to differentiate plasma cell granulomas from extramedullary plasmacytoma and multiple myeloma, considering the poor prognosis of these neoplasms. Extramedullary plasmacytoma is singular lesions like the plasma cell granulomas and may be malignant or a precursor to malignancy. On histopathologic examination, plasmacytoma is composed of a monoclonal proliferation of plasma cells arranged in relatively broadsheets on a delicate reticular stroma, whereas, the PCG consists primarily of a capillary network. The plasmacytomas replace the tissue, whereas, in the PCG's, plasma cell infiltrate is by its deposition into the tissues. The inflammatory cells are very sparse, with the absence of Russell bodies in the plasmacytoma in contrast to the plasma cell granulomas.

PCG is a rare benign tumor characterized histologically by fascicles of spindle mesenchymal cells admixed with chronic inflammatory cells, predominantly plasma cells. It has various components like fibroblasts, myofibroblasts, inflammatory cells (plasma cells, lymphocytes, histiocytes, mast cells, and eosinophils). The stroma is collagenous and myxoid. All these components are arranged in varying proportions and thus create a marked histological diversity. Depending upon the predominant components, it has various nomenclatures like plasma cell granuloma, plasma cell pseudotumor, inflammatory pseudotumor, inflammatory myofibroblastic tumor, and myofibrohistiocytic proliferation. In the present case, there were collagen fibers which were interspread with plasma cells.³ The diagnosis of PCG is mainly an exclusion diagnosis where the above said tumors have to be ruled out.

PCG is usually benign lesion of the oral cavity, and simple excision of the lesion is curative. Although surgery is the fundamental treatment, regression, and response to corticosteroids and nonsteroidal inflammatory agents have been noticed in rare cases. In our case, for eight months, the patient was followed up after the surgery. During this period, the patient had no recurrence of the lesion.⁵

CONCLUSIONS

Plasma cell granuloma is a rare benign lesion, but its exact etiology, behavior, and prognosis are still controversial. It was thought to arise due to a non-specific inflammatory response to an unknown exogenous agent. It is diagnosed primarily based on the histological findings.

This case report adds to the present literature of plasma cell granuloma on the gingiva. It is imperative to submit all the excised gingival tissue for microscopic examination and perform complete lab investigations to differentially diagnose it from other lesions.

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