

Case Report

Plasma Cell Granuloma of Gingiva - Report of A Rare Case

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ABSTRACT

This clinical report describes a rare, benign, tumour like proliferation of gingiva known as plasma cell granuloma which is usually found in lungs but may involve other locations also. Intraoral location of plasma cell granuloma has been documented but involvement of gingiva is rare. A 48 year old female who presented with unusual gingival growth in maxillary anterior region was treated by excisional biopsy. Histopathology confirmed the lesion to be gingival plasma cell granuloma. But its clinical behaviour and etiology is still a challenge for periodontist.

Keywords: Benign tumour, Gingival overgrowth, Gingival hyperplasia, Plasma cell, Granuloma

INTRODUCTION

Plasma cell granuloma is a rare, benign, tumour like proliferation usually found in lungs.^[1] It is considered as

non neoplastic reactive lesion which is chiefly composed of plasma cell. Reactive nature is often associated with some antigenic hue either due to inflammatory factors or foreign bodies. Although it has been reported in various anatomic locations but intraoral location is rare. It has been earlier documented on movable tissues of oral cavity but on gingiva it is even rarer. Bhaskar first reported this entity in 1968 and since then only few cases have been reported so far.^[2-10] No sex predilection has been documented and both the arches are equally involved. Histologically it consists of plasma cell intermixed with inflammatory cells. Surgical excision is the treatment of choice. It seems to be benign but as there is scarcity of literature, biological behaviour cannot be predicted. The present article is presented with the aim to emphasise the importance of diagnosing this rare lesion to study their incidence and biological behaviour as the pathogenesis of this lesion is

still the challenge for dental professional. Moreover submitting all excised tissues for histopathological examination should be included in routine practice

CASE REPORT

A 48 year old female patient was referred to Department of Periodontology for evaluation of pink, elevated, sessile mass of tissue at the facial and interproximal gingiva in maxillary anterior region. She noticed the swelling 4 months back which gradually increased in size. Gingival swelling was 2.1 × 3.5 × 1 cm in size with the same color as surrounding gingiva [Figure 1]. Lesion was asymptomatic but it was esthetically objectionable to her. The medical history was non contributory. Complete hemogram showed all blood counts to be

normal. Intraoral radiograph appeared to be normal showing no signs of bone involvement. Excisional biopsy was performed and was sent to histopathological examination. Histopathological examination showed parakeratinized stratified epithelium with elongated rete pegs. There was inflammatory cell infiltrate in connective tissue showing predominance of plasma cells and collagen fibres. No abnormal or malignant cell was detected [Figure 2,3]. Immunohistochemical stained for kappa and lambda light chains showed polyclonal plasma cell population.[Fig 4]. Uneventful healing was there and no recurrence till 6 months postoperative [Figure 5]. In the light of histopathology confirmatory diagnosis of plasma cell granuloma was made.



Figure 1: Presurgical clinical appearance showing reddish pink, firm, gingival overgrowth



Figure 2: Histopathological examination showing dense plasma cell infiltrates (20 X magnification)

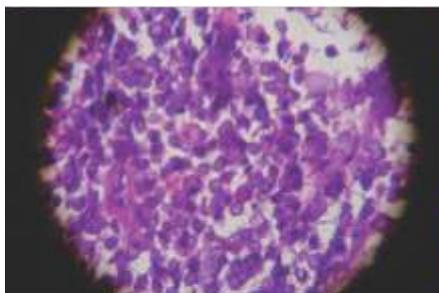


Figure 3: Histopathological examination showing dense plasma cell infiltrates (40X magnification) and plasma cells with eccentrically placed nucleus

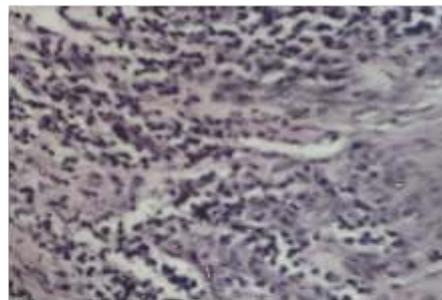


Figure 4: Immunohistochemistry for lambda chains



Figure 5: Six month postoperative view

DISCUSSION

Plasma cell granuloma (PCG) is non neoplastic, reactive inflammatory lesion which usually involves the lungs and was first described by Bahadori and Liebow (1973).^[1] Intraoral location is rare and to best of our knowledge less than 10 cases have been reported on gingiva.^[2-10] It consists of a proliferation of inflammatory cells, with a predominance of plasma cells.

Plasma cells are terminally differentiated B lymphocytes which are typically found in the red pulp of the spleen, lymph nodes, tonsils, nasal mucosa, lamina propria of the gastrointestinal tract and sites of inflammation. They are characterised by basophilic cytoplasm with an eccentrically placed nucleus. The tumour that consists of plasma cells may be multiple myeloma, solitary myeloma, soft tissue myeloma or plasma cell granuloma. Multiple myeloma and solitary myeloma are tumours of bone while soft tissue myeloma and plasma cell granuloma are soft tissue tumours. Differentiation is of utmost importance as plasma cell granuloma differs in clinical behaviour and treatment aspects.

Plasmacytoma are singular lesions located on oropharyngeal mucosa which may be premalignant or can lead to malignancy and can be differentiated

histologically from plasma cell granuloma. As PCG consists of plasma cells arranged in capillary network while in plasmacytoma plasma cells are arranged in broad sheets and moreover polyclonal nature of the plasma cell infiltrate was documented by positive cytoplasmic staining for both kappa and lambda light chains. This distinguishes PCG from neoplastic plasma cell which constitutes a monoclonal cell proliferation. Multiple myeloma is relatively rarer malignant lesion with extraoral and systemic manifestations. In the present case multiple myeloma has been ruled out on the basis of conventional clinico-pathological investigations.

The pathogenesis of plasma cell granuloma remains unclear. It may be due to autoimmune reaction, parasitic infiltration^[11] or alteration in blood flow imposing congestive vasodilatation.^[12] Plasma cell granuloma is a diagnosis of exclusion distinguished primarily on the histological finding of a marked submucosal infiltrate of plasma cells. Plasma cell granuloma is usually managed by simple excision and removal of underlying inciting agent whereas neoplasm may require surgical excision followed by chemotherapy or radiotherapy. This case report emphasised the importance of submitting all excised tissue to histopathological examination to correctly diagnose these rare lesion and

understanding their biological behaviour.

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