CASE REPORT

A Case of Plasma Cell Granuloma of Unknown Cause

Faizuddin Imran, Sukanya Rajan, Geetha Vijay

ABSTRACT

Plasma cell gingivitis (PCG) is a condition in which a hypersensitive reaction is seen to various etiologic causes in the gingival tissue. A rare form of PCG, called plasma cell granuloma may sometimes occur, in which enlargement of a specific area of the mouth is seen. This case report elicits a case of such a rare case of the granuloma in the anterior maxilla of a 25-year-old patient.

Keywords: Gingivitis, Plasma cell, Plasma cell gingivitis, Plasma cell granuloma.

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INTRODUCTION

Plasma cell gingivitis (PCG) is a rare condition, which is characterized by a hypersensitive response seen in the gingival tissue.[1] PCG is known by a variety of other names, such as atypical gingivostomatitis, idiopathic gingivostomatitis and allergic gingivostomatitis.[2] The etiology may be very difficult to elicit, as it could be caused due to numerous reasons, such as due to consumption of certain food stuffs, in chewing gum or even due to ingredients in toothpastes. Sometimes, the etiology may be unknown.

Therefore, PCG has been divided into the following major categories:

1. PCG caused by allergens
2. PCG of a neoplastic origin
3. PCG due to unknown cause.

A form of PCG has been described, called plasma cell granuloma, in which, the enlargement is seen only in a specific area of the mouth.[3]

This reported case is an unusual case of plasma cell granuloma, presented as a localized gingival swelling in the anterior maxilla of a 25-year-old patient.

CASE REPORT

A 25-year-old patient visited the Department of Periodontics, Vydehi Institute of Dental Sciences and Research Centre, Bengaluru, complaining of swelling in his upper right front tooth region for the past 2 weeks. He had no prior history of any dental treatment, nor was his medical history and personal history significant.

Clinically, the patient presented with gingival inflammation and enlargement of the interdental papilla between the maxillary right canine and first premolar (Fig.1). The lesion was pink in color and firm to rubbery in consistency, with a size of about 0.5 × 0.5 cm in size. A probing pocket depth of about 5 mm was also observed in the area, and the radiograph showed remaining alveolar bone level of up to the middle third of the roots. No other significant intraoral findings were observed during examination.

All the routine blood investigations were performed to rule out any systemic causes of this enlargement.

After the etiotropic phase of treatment was complete, excisional biopsy was performed in the area of the interdental papilla between the maxillary right canine and first premolar. A 0.5 × 0.5 × 0.5 cm of tissue was obtained, which was then sent for histopathological investigation.

The histopathological report revealed the presence of parakeratinized squamous epithelium with elongated rete ridges. The cells were separated by sheaths of collagen fibers in bundles. Engorged capillaries and small blood vessels were also seen (Fig. 2). The underlying connective tissue showed infiltration of numerous plasma cells, in sheets, with occasional lymphocytes (Fig. 3).

DISCUSSION

PCG is a rare condition characterized by diffuse and massive infiltration of plasma cells into the subepithelial gingival tissue.[4-6]

Although the etiology of PCG is not clear, many authors are of the opinion that it is an immunological reaction to

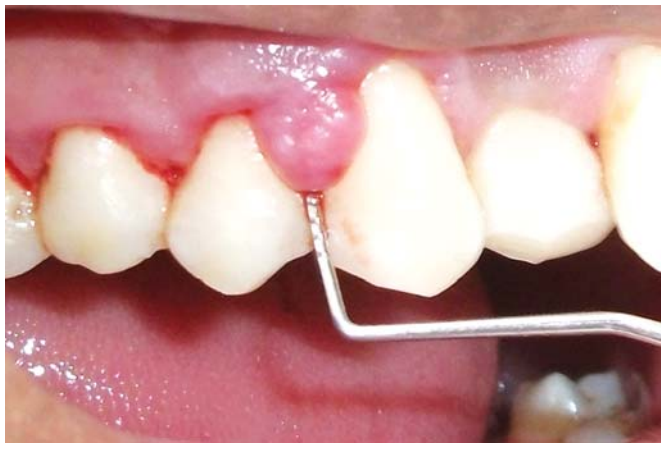

Fig. 1: Clinical view of the lesion IRT interdental papilla of 13-14 (preoperative)

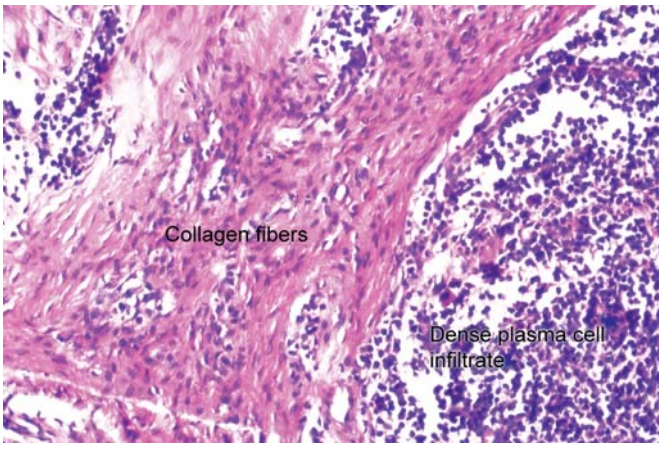

Fig. 2: 4× magnification of the biopsied tissue

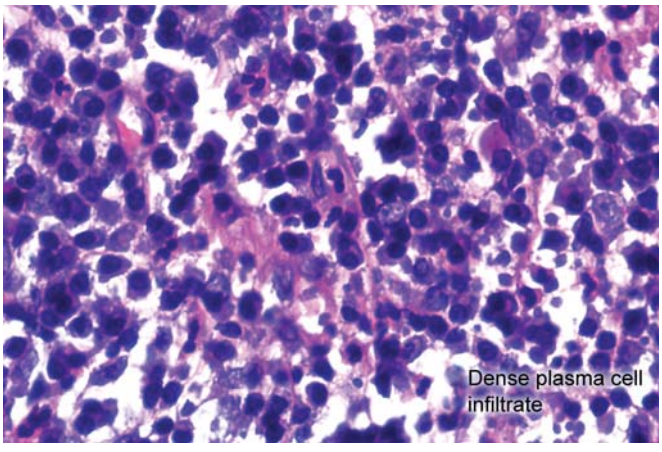

Fig. 3: 12× magnification of the biopsied tissue

allergens. It has been mentioned in the literature that these lesions may occur due to constituents present in toothpaste, chewing gum, mint pastels and certain foods.[4-9]

It has been suggested that strong spices and some herbs such as chilli, pepper and cardamom may be important factors.[4,10-12] Cinnamonaldehyde, which is usually added to dentifrices to mask the unpleasant taste of pyrophosphate, has been associated with the development of PCG.[11,12]

The differential diagnosis of the condition is very important because of its similarity with some other aggressive conditions. A negative 'Nikolsky's sign' would help exclude lesions such as pemphigus. The presence of atypical plasma cells suggests malignancy, such as multiple myeloma and solitary myeloma.[13,14]

The diagnosis requires hematological screening in addition to clinical and histopathological examination in order to exclude leukemia. Further, serological examination is needed to exclude connective tissue disease—first and foremost lupus erythematosus.[9,14]

Other possibilities with regard to the differential diagnosis are lichen planus and benign mucous membrane pemphigoid.[4,9] The histopathological changes mimic those of other more serious conditions, such as multiple myeloma, solitary plasmacytoma and Waldenströms macroglobulinemia.[4]

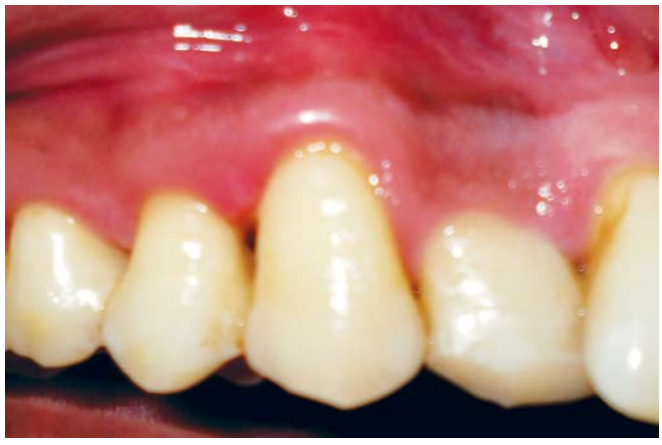

Fig. 4: One week postoperative photograph

Management has traditionally been symptomatic, as plaque control and conventional therapies alone will not cure the disease.[10] The patient must be instructed to keep a complete dietary history, with records of everything taken into the mouth (e.g. foods, dentifrice, mouthwash, tobacco, alcohol, chewing gum, candy, medication). Possible allergens should be eliminated in an attempt to determine the cause. If no answer is apparent, then extensive allergy testing and elimination diet can be taken.[15]

Many patients, in whom no underlying causes could be discovered, have been treated with topical or systemic immunosuppressive medications, with variable results. Betamethasone rinses, fluocinonide gel (0.05%), topical triamcinolone (0.1%) and topical fusidic acid (2%) are several of the reported choices. In spite of all evaluations and therapeutic interventions, some patients do not respond to treatment, and no cause for the disease can be identified.[16]

In this case, the patient's thorough history was taken to rule out any of the probable causative factors predisposing to plasma cell granuloma. He was first treated to a round of thorough oral prophylaxis followed by an excisional biopsy of the lesion. All the relevant hematological investigations were performed to rule out the other probable lesions. The histopathological picture confirmed the clinical diagnosis of the lesion. He was recalled after a week for postoperative examination, and complete cessation of the lesion was seen (Fig. 4) as the causative factor in this case was not elicited, the lesion can be considered a case of plasma cell granuloma of unknown cause.

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