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Chronic gingival hyperplasia, systematic diagnosis and management: A Case Report

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Abstract

Increase in the size of the gingiva known as gingival enlargement, is a common feature of gingival disease. Various local and systemic factors influence the gingival conditions of patients which may lead to developmental, conditional, reactive to neoplastic diseases. The objective of this case report was to describe a patient presenting with an overgrowth of the gingival tissue which first appeared during fifth month of her first pregnancy and increased to the present size during her second pregnancy. This study reviews the history, etiology, clinical, histological features, treatment modalities and preventive measures of inflammatory hyperplasia.

Keywords: gingival enlargement, gingival disease, gingivectomy, inflammatory hyperplasia, pregnancy.

Introduction

Gingival inflammatory hyperplasia is considered a non-neoplastic process, related to chronic irritative factors. Oral mucosa is constantly subjected to some kind of irritation or a low grade injury like chewing, trapped food, calculus, fractured teeth, overhanging restorations and over extended flanges of dentures [1]. Therefore, it manifests as a spectrum of diseases that range from developmental, reactive and inflammatory to neoplastic lesions. Clinically, the reactive lesions can be classified as traumatic fibroma, pyogenic granuloma, pregnancy tumour and epulis fissuratum [2].

Gingival enlargements may be multifactorial in nature. Among them the most common is the chronic gingival inflammatory enlargement [3]. The accumulation and retention of plaque is the chief cause of inflammatory

gingival enlargement [4]. The gingiva presents clinically as erythematous, soft, edematous and enlarged due to prolonged exposure to bacterial plaque. Diagnosis of the lesion is aided by their clinical and radiographic features but histopathology is an important and a key factor for final diagnosis [5]. In such cases the sequelae in treating the chronic inflammatory enlargement is to reduce the inflammatory load followed by surgical excision of the hyperplastic gingiva.

The initial treatment was scaling and root planning which made the gingival consistency firm and fibrotic, this is followed by gingivectomy to achieve normal contour and consistency of gingiva.

Case Report

A female patient aged 29 years reported with a chief complaint of swelling on the left front region of the gums. Patient reported that the lesion appeared during the fifth month of her first pregnancy. The lesion was of negligible size when she first noticed it , but it gradually increased in size during her second pregnancy . Eventually, the condition began to cause discomfort during mastication due to the large size and was also esthetically unpleasing.

On examination the lesion was nodular; firm in consistency measuring about 2.2x1.4 cm; reddish in colour which showed signs of bleeding and pain on palpation. It involved the marginal, attached and the interdental gingiva on the facial surface of the maxillary left lateral incisor to first premolar. (figure1)

Fig 1: Pre- operative photograph

At the initial visit, after taking the proper history, the Phase I therapy was done to eliminate local irritating factors using ultrasonic scaler. Thorough root planning, gingival curettage and subgingival irrigation was done using 2% betadine. The patient was advised to use 0.2 % chlorhexidine mouthwash twice daily, proper oral hygiene instructions were given and recalled after 7 days for re-evaluation.

On the second visit, there was a colour change noticed from reddish pink to pale pink and the lesion appeared fibrotic. Infiltration was given with 2% lignocaine (1:80,000) and the lesion was excised using electrocautery unit (PerFect ®TCS II, 230 V,120Hz) in order to minimize the anticipated intraoral bleeding (figure 2). The residual calculus was removed and root planning was done following which periodontal pack was placed. Post operatively the patient was given analgesic, Acecloren (Aceclofenac combined with Serratiopeptidase) B.I.D for 5 days.

Fig 2: Excision of the lesion using electrocautery

The patient was asked to rinse the mouth with 0.2% chlorhexidine and was motivated regarding the oral hygiene maintainance. The excised lesion was sent to the Department of Oral Pathology, KLE VK Institute of Dental Sciences for histopathology examination.

Pack removal was done 1 week post-surgery and the area showed no signs of inflammation but the margins appeared erythematous.(figure 3)

Fig 3: Healing after 1 week

Fig 4: Healing after 2 weeks

On the 14th day after surgery (fig 4) the post-operative site showed no signs of inflammation, no bleeding and the contour of the gingiva was normal with well demarcated margins.

Discussion

In the oral cavity the periodontium can show different types of focal overgrowths. The lesions arise due to overgrowth and proliferation of different components of connective tissue in periodontium i.e the fibers, cementum, blood vessel or any particular type of cell [2]. Most of the lesions are reactive chronic inflammatory hyperplasias, with minor trauma or chronic irritation due to sharp tooth, dislodged restoration being the etiologic factors. Chronic trauma can induce inflammation, which produces granulation tissue with endothelial cells, chronic inflammatory cells and later fibroblasts proliferate and manifest as an overgrowth called reactive hyperplasia. It has been shown that 77% of the lesions observed in the oral cavity are reactive in nature [6,7].

Fibrous hyperplasia clinically presents as a well-demarcated exophytic mass. The colour ranges from normal to white or reddish depending upon whether or not the surface is ulcerated, keratotic or both or neither [8]. It can be soft or firm in palpation.

The clinical appearance of reactive lesions is very similar to that of neoplastic proliferations. This similarity is a challenging matter for differential diagnosis. When presented clinically with a gingival lesion, it is important to establish a differential diagnosis.

In the present case the differential diagnosis can be the pyogenic granuloma because the patient presented with a history that the lesion appeared during her pregnancy period.

Pyogenic granuloma occurs frequently during pregnancy especially during the 2nd and 3rd trimesters wherein it is referred to as pyogenic tumour. Increased levels of estrogen and progesterone modify the vascular response to local irritants that lead to the occurrence of the lesion [9].

So, histopathology plays a key role in the diagnosis of such lesions.

In the present case microscopic examination revealed discontinuous and atrophic stratified squamous parakeratinized epithelium (fig 5) The underlying connective tissue stroma shows dense bundles of collagen fibers with plump to spindle shaped fibroblasts (fig 6). Chronic inflammatory infiltrate composed of lymphocytes and plasma cells were seen. Several endothelial lined blood vessels with RBC's and extravagated RBC's were also noted, suggestive that the lesion is an Inflammatory Fibrous Hyperplasia.

Initially, phase 1 therapy was done to remove the local irritants and Oral hygiene maintenance was reinforced and made a priority.

Those lesions failing to resolve post phase 1 therapy should be surgically excised. An electrocautery device was used to excise the lesion in the current case. Other treatment options include scalpel, flash lamp pulsed dye laser, cryosurgery and sodium tetradecyl sulfate sclerotherapy [10,11]. Follow-up of the patient is needed as it exhibits a tendency to recur.

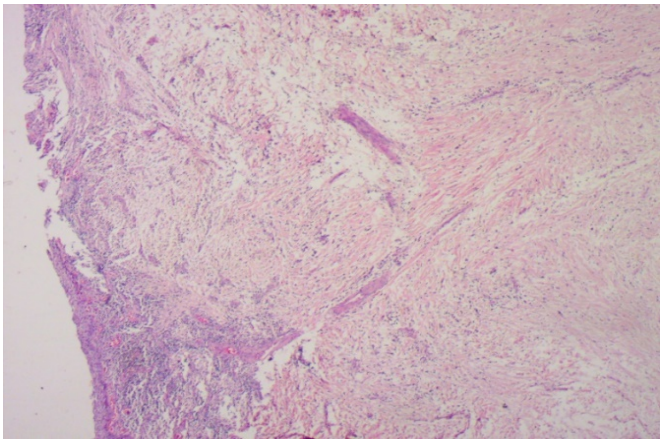

Fig 5: Photomicrograph of the specimen showing discontinuous epithelium

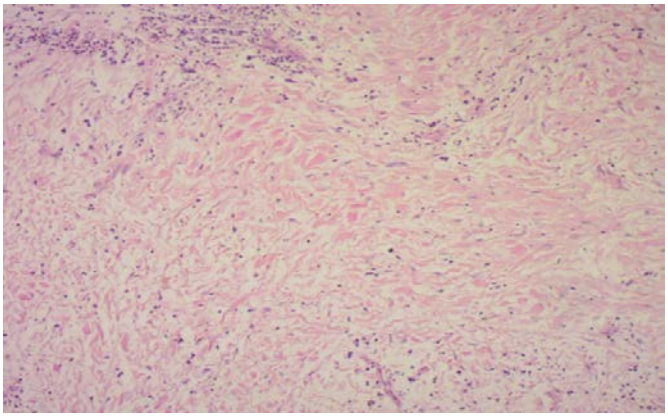

Fig 6: Photomicrograph of the specimen showing dense bundles of collagen fibers with plump to spindle shaped fibroblasts

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