PERSISTENT PREGNANCY TUMOR : A CASE REPORT WITH REVIEW OF LITERATURE

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Abstract

Oral pyogenic granuloma is a hyperplastic inflammatory lesion commonly associated to local irritation or trauma. Females are more affected than men probably due to the vascular effects of hormones that occur during puberty, pregnancy and menopause. In pregnancy, the lesions are known as "pregnancy tumor" and tend to occur more frequently during the second and third trimester. In the oral cavity, histopathological examination is required for diagnosis, since the lesion is clinically indistinguishable from other reactive lesions and, usually, there is no evidence of bone involvement. We present a case of pregnancy tumor highlighting the need for proper management that occured in the mandibular gingiva of a 27 year old female in the second trimester of pregnancy which was excised after parturition due to its persistence.

Key words: Pyogenic granuloma, pregnancy tumor, persistence.

Introduction

The physical and emotional changes that occur during pregnancy affect the oral health of pregnant women to a greater extent. The hormonal changes that occur during this time are linked to an increase in pregnancy gingivitis and pregnancy tumor. In addition to it, the recent researches have showed that periodontal health may alter the systemic health of the patient and adversely affect the well being of the foetus by elevating the risk for preterm, low-birth-weight baby. Inspite of all this, by having well knowledge and being prepared, these risks can be managed and prevented and can stay on the path of health and well being.

The pyogenic granuloma which appears during pregnancy is called pregnancy tumor. It is a common, usually solitary, lobulated, benign vascular proliferation of the skin or mucus membranes, present as a haemorrhagic, sessile or a pedunculated growth.[1] Poor oral hygiene may be a precipitating factor. The lesions are often deep red or reddish purple, soft in consistency & often ulcerated or may have a tendency to bleed on slight trauma. [2]

Pregnancy tumor mostly appears in about third month of pregnancy or later, gradually increases in size and may or may not regress after delivery. [2]

Kornman & Loesch (1980) have reported that the subgingival flora changes to a more anaerobic flora as pregnancy progresses prevotella intermedia is the only microorganism that increases significantly during pregnancy. [3]

A case of pregnancy tumor is presented here that occured in the mandibular gingiva of a 27 year old female in the second trimester of pregnancy which was excised

after parturition due to its persistence highlighting the need for proper management.

Case Report

A 27 year old female reported to the dental clinic with a chief complaint of a swelling on the lower anterior jaw region for the past one week. There was no history of pain associated with the lesion. There was bleeding on brushing that was present since one month. There was no difficulty in speech or mastication.

On examination a single erythematous bright red, pedunculated gingival growth, irregular in shape, measuring 3 x 2.5 cms in size was present on the mandibular gingiva. [Fig 1]

It extended from the distal line angle of 42 to the mesial line angle of 31. It extended 1.5cms onto the attached gingiva. No calculus or food debris was present. Few areas of extrinsic stains were present.

On palpation it was soft in consistency, tender and bleeding on palpation without ulceration was present. No lymph nodes were palpable. There was no history of drug intake and other significant medical history.

It was found that the patient was in her second trimester of pregnancy.

Patient was unable to maintain oral hygiene in this area, because of gingival enlargement, rest of the oral cavity showed normal gingiva and satisfactory oral hygiene. A provisional diagnosis of pyogenic granuloma was made. Differential diagnosis was peripheral giant cell granuloma.

Considering her pregnancy no invasive surgical procedure was carried out. Oral prophylaxis was performed after routine haematological investigation. Instructions regarding maintenance of oral hygiene were given. She was advised to visit the department after parturition. Patient reported one month after an uneventful first pregnancy. The swelling had not regressed and remained the same

After reduction in inflammation, lesion was excised along with raising of periodontal flap in area of the mandibular incisors and open curettage of area was performed.[Fig2]

Excised lesion was sent for histopathological examination, [Fig 3] which revealed epithelial proliferation and underlying capillary proliferation [Fig 4] with engorged red blood cells [Fig 5] and endothelial cell proliferation along with marked inflammatory cell infiltration seen in connective tissue. [Fig 6]

Early healing was uneventful as patient reported after one week for suture removal. Patient was reinstructed for maintenance of oral hygiene. No recurrence has been observed after 3 months of follow up.

Discussion

Pyogenic granuloma is a vascularized mass originally described in 1897 by Poncet & Dor, who named this lesion "human botryomycosis". [4] The term "pyogenic granuloma" was proposed by Hartzell (1904) although it is a misnomer since the condition is not associated with pus and does not represent a true granuloma. [5]

Fig 1: *A single erythematous bright red, pedunculated gingival growth, irregular in shape present on the mandibular gingiva.*

Fig 2*: The lesion was excised along with raising of periodontal flap in area of the mandibular incisors and open curettage of area was performed*

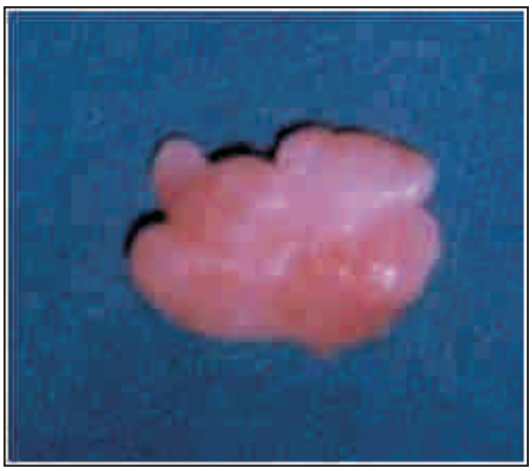

Fig 3*: Excised lesion which was sent for histopathological examination.*

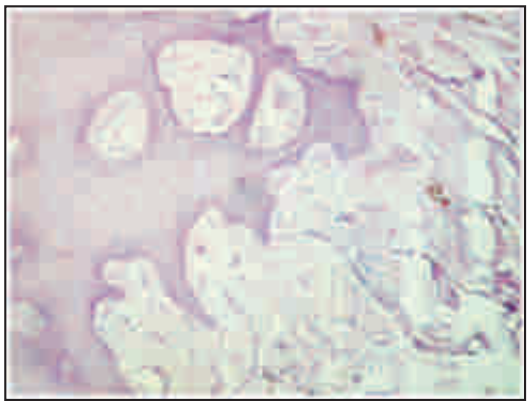

Fig 4: *H&E stain, 10X view showing epithelial proliferation and underlying capillary proliferation.*

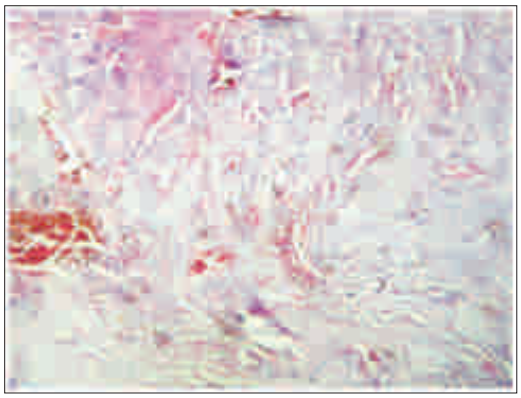

Fig 5: *H&E stain, 10X view showing capillary proliferation with engorged red blood cells*

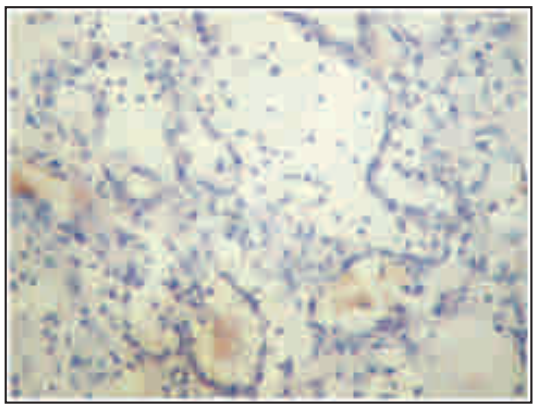

Fig 6*: H&E stain, 10X view showing endothelial cell proliferation along with marked inflammatory cell infiltration seen in connective tissue*

Oral health care in pregnancy is often avoided and misunderstood by physicians, dentists, and patients. Evidence-based practice guidelines are still being developed. A recent international similar study carried out in USA by Silk H et al suggested that every pregnant woman should be screened for oral risks, counselled on proper oral hygiene, and referred for dental treatment when necessary. Appropriate dental care and prevention during pregnancy may reduce poor prenatal outcomes. [6]

The lesion appears as a hyperplastic inflammatory response to local irritation or trauma. In the oral cavity, repeated gingival inflammation secondary to plaque, calculus and foreign body are sufficient to initiate lesion development. Females are more

commonly affected probably due to the vascular effects of hormones that occur during puberty, pregnancy and menopause. In pregnancy, the lesions are known as "pregnancy tumor" and tend to occur more frequently during the second and third trimester. The incidence of occurrence is more common in maxilla than mandible. Our case has occurred on the mandibular gingiva. It usually regresses after pregnancy but in our case persisted even after pregnancy.

The term pregnancy tumor was first coined by Blum in 1912. In 1946 Ziskin and Ness [7] compiled a clinical classification of pregnancy gingivitis as follows:

Class I – Characterized by bleeding gingiva with more or less, no other manifestations.
Class II- Characterized by changes in the interdental papilla-edema and swelling with subsequent blunting of interdental papilla.
Class III- Characterized by involvement of the free gum margin, which takes on the color and general appearance of a raspberry.
Class IV– Generalized hypertrophic gingivitis of pregnancy.
Class V – The pregnancy tumor.

Pregnancy itself cannot cause gingivitis, gingivitis in pregnancy is caused by bacterial plaque possibly that bacterial–hormonal interactions may change the composition of plaque and thereby lead to gingival inflammation.

Kornman and Loesche in 1980 reported that the sub gingival flora changes to a more anaerobic flora as pregnancy progresses mainly Prevotella Intermedia will predominate. This increase appears to be associated with elevations in systemic levels of Estradiol and Progesterone, which can substitute for Menadion (vitamin k) essential growth factor for Prevotella Intermedia and coincide with gingival bleeding. [8]

Increased levels of progesterone, produce dilation and tortuosity of gingival microvasculature, circulatory stasis and increased susceptibility to mechanical irritation favor leakage of fluid into perivascular tissues and results in increase in pocket depth and hence associated with transient tooth mobility. Destruction of gingival mast cells by the increased sex hormones and the resultant release of histamine and proteolytic enzymes may also contribute to the exaggerated inflammatory response to local factors. O'Neil in 1979, suggested that during pregnancy, a depression of the maternal t- lymphocyte response may be a factor in the altered tissue response to plaque. [9]

In absence of significant esthetic or functional problems or both, the lesion should not be excised because it may resolve after parturition. Local irritants should be removed. Those lesions failing to resolve should be surgically excised. Follow up of the patient is needed because pyogenic granuloma exhibits a tendency to recur. [10]

Conclusion

Solitary conditioned enlargements are among the most frequently encountered conditions by the clinician. These lesions present similar clinical features with lot of variance in underlying etiologies. Surgical excision is the preferred treatment of choice, with removal of local irritants to prevent recurrence. For pregnancy tumor, a conservative approach is recommended. Complete treatment can be provided after parturition. We have presented a case of pregnancy tumor in a 27 year old female which did not regress after parturition which was treated by surgical excision.

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