

Pregnancy Tumor: Case Report of Two Cases

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An 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 the 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 two cases of pregnancy tumor highlighting the need for proper management that occurred in the maxillary gingiva of a 27-year-old and 28-year-old female in the second trimester of pregnancy which was excised after parturition due to its persistence.

Keywords: Persistence, Pregnancy tumor, Pyogenic granuloma

INTRODUCTION

Pregnancy has been seen to increase susceptibility to gingival inflammation.¹ Pregnancy tumor is a benign hyperplastic gingival lesion occurring during pregnancy,² usually arising in an area of previously inflamed gingiva, and is mostly associated with poor oral hygiene, which serves as an irritant.³

This rapidly growing tumor usually appears during the 2nd or 3rd month of pregnancy. Although an involution usually occurs after parturition, interference with the function may make the excision of the tumor inevitable.

Clinically, a pregnancy tumor is a tumor like growth, appearing most commonly on the interdental papillae of the anterior maxillary teeth. The gingiva is the most common site involved, but the tongue, lips, palate, and oral mucosa might also be involved.³

There is a tendency for the tumor to bleed. The color ranges from purplish red to dark purple, depending on the vascularity of the lesion and the degree of venous stasis.⁴

Histologically, the lesion is composed mainly of immature vascular granulation tissue.

Comprising abundant vascular components with newly formed capillaries and a massive proliferation of fibroblasts; it is indistinguishable from pyogenic granulomas arising in non-pregnant females or males.⁵ The inflammatory process is characterized by lymphocytes, plasma cells, and neutrophils. The tumor becomes hyperplastic and nodular, may become sessile or pedunculated, and may also be ulcerated.¹ At later stages, the tumor may become fibrous.

The treatment modalities include surgical excision with a scalpel, radiosurgery, pulsed laser surgery, cryosurgery, and intralesional injections of ethanol, sodium tetracycline sulfate, or corticosteroid.⁵

CASE REPORT

Case 1

A 27-year-old female reported to the Outpatient Department of Nair Hospital Dental College with a Chief complaint of swelling in the front upper region of the oral cavity since 1 month. There was no pain associated with the lesion. Patient experienced bleed in on brushing and difficulty in mastication and speech.

Intraoral examination revealed a large soft tissue mass in the anterior region of the palate. It was pinkish red in color, oval in shape of 3 inches × 4 inches size. It had a smooth

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surface and was pedunculated. On palpation it was soft in consistency, bleeding on palpation was present without ulceration (Figure 1). Intra-oral periapical radiograph (IOPA) revealed mild horizontal bone loss (Figure 2).

It was found that the patient was 8 months pregnant.

The 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. The differential diagnosis was peripheral giant cell granuloma.

Considering her pregnancy no invasive surgical procedure was carried out. Oral prophylaxis was performed after routine hematological investigation. Instructions regarding maintenance of oral hygiene were given. She was advised to visit the department after parturition. The patient reported 3 months after an uneventful first pregnancy. The overgrowth had regressed in size (Figure 3).

Excision of the lesion was performed under local anesthesia (1:200000) along with raising a flap in the maxillary anterior region, and open curettage of the area was performed. The excised mass was sent for histopathological examination which confirmed pregnancy tumor (Figures 3-5).

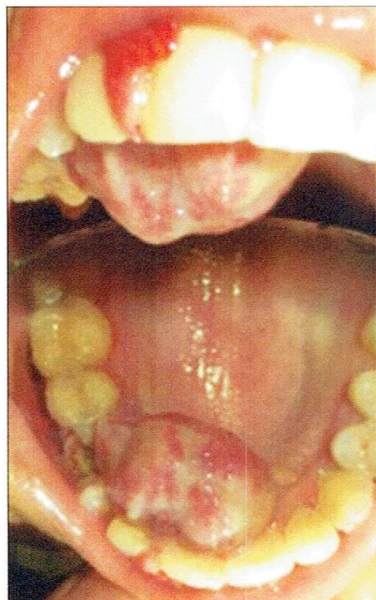


Figure 1: Pre-operative picture of case 1



Figure 2: Intra-oral periapical radiograph of case 1



Figure 3: After 4 months postparturition



Figure 4: Overgrowth after excision



Figure 5: (a) Sutures placed, (b) 6 months after excision

Early healing was uneventful; the patient was re-instructed for oral hygiene maintenance. No recurrence has been observed since 6 months follow-up (Figure 6).

Case 2

A 28-year-old female patient reported to Department of Periodontics Nair Hospital Dental College. She was 7 months pregnant and had a chief complaint of swelling in the anterior region of gums.

No other drug history or significant medical history was present.

On examination, a reddish purple, lobulated, pedunculated mass was seen on the buccal aspect of left maxillary anterior gingiva in the region of lateral incisor.

The surface was ulcerated, and pus exudation was seen. The oral hygiene of the patient was poor (Figure 7). IOPA showed mild horizontal bone loss (Figure 8).

Oral prophylaxis was done, and oral hygiene instructions were given for maintenance. No surgical excision was carried out, and the patient was asked to report postparturition.

After 4 months postparturition when patient reported back, the overgrowth was of the same size but the inflammation had subsided (Figure 9).

The excision of the mass was done under local anesthesia and sent for histopathology.

The histopathological report confirmed pregnancy tumor (Figures 10-12).

The healing was uneventful and no recurrence since 6 months has been reported (Figure 13).

DISCUSSION

Pregnancy tumor is also known as "granuloma gravidarum." The term was first coined by Blum in 1912. It is present in up to 5% of pregnancies.⁶



Figure 6: Histopathology confirmed pregnancy tumor



Figure 8: Intra-oral periapical radiograph of case 2

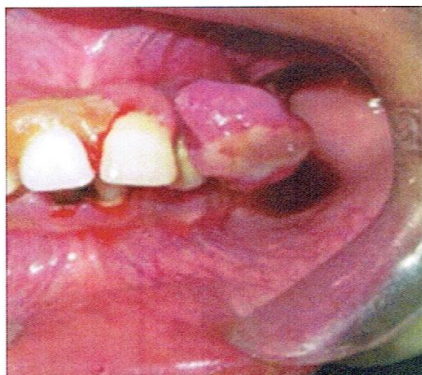


Figure 7: Pre-operative picture of case 2



Figure 9: 4 months postparturition



Figure 10: After excision



Figure 12: 6 months after excision



Figure 11: Excision of overgrowth

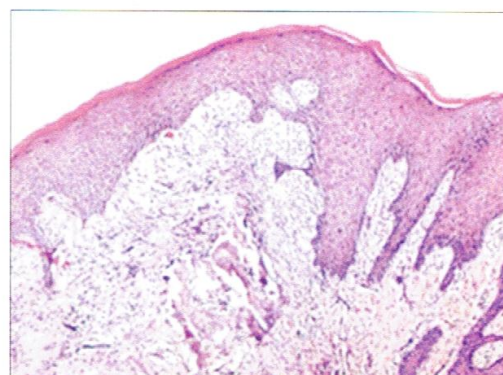


Figure 13: Histopathology report confirmed pregnancy tumor

In 1946 Ziskin⁷ and Ness 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 interdental papilla-edema and swelling with exhibits a tendency to recur. Subsequent blunting of interdental papilla

Class III - Characterized by the involvement of the free gingival margin, which takes on the color and general appearance of a raspberry

Class IV - Generalized hypertrophic gingivitis of pregnancy

Class V - The pregnancy tumor.

Both the cases in this study were seen in the anterior part of maxilla which has the highest rate of occurrence of pregnancy tumor.

Saravana in 2009 demonstrated that 55% of PG lesions involved the maxilla, and 83% occurred in the gingiva.⁶ In another study conducted by Lawoyin *et al.*, in 1999, the gingiva was found to be the most common affected site by PG (44.4%).⁶ Krishnapillai *et al.*, in 2012 evaluated the characteristics of oral PG in patients presenting to in the South India and concluded that 50.23% of lesions occurred in the maxillary gingiva and 46.53% in the mandibular gingiva.⁸

Increased female hormone levels during pregnancy are related to the increased susceptibility to gingival inflammation, without a certain association with the amount of dental plaque accumulation.⁹ Gestational steroid changes do not independently trigger the development of pregnancy tumor but aggravate the previously latent gingivitis leading to a exacerbated inflammatory tissue response, causing the development of this proliferative lesion.¹⁰ Gingival irritation is the factor that triggers the development of pyogenic granuloma. The microulceration, due to predisposing irritant factors in already inflamed

gums, enables oral *microflora* of low virulence to reach the gingival connective tissue, thus producing a hyperplastic vascular response that leads to the formation of the pyogenic granuloma.

In a study conducted by Antoniadis *et al.*,¹¹ in 1990 in which he studied the frequency of occurrence of pregnancy tumors. 27.5% of rats fertilized 7 days after wire irritation and sacrificed at day 50 manifested lesions that histologically resembled pregnancy tumors.

Kornman and Loesche in 1980 reported that the subgingival 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 *P. Intermedia* and coincide with gingival bleeding.¹²

O'Neil¹³ in 1979 reported that pregnancy can lead to depression of maternal T-lymphocytes, diminishing the mother's immunity. This may also act as a factor in the exuberant tissue response to the plaque microorganisms.

Sarvana *et al.*,⁶ in 2009 did a longitudinal study on pyogenic granuloma in this study majority of cases were symptomatic and showed bleeding. 71.9% of the pregnancy tumors were nodular, 62.3% had soft consistency, and 73.2% had red surface. The authors concluded that simple excision is enough to prevent recurrence, but the etiology and pathogenesis must be known to understand its nature.

Recurrence is rarely seen with these lesions. Tiara *et al.*, in 1992 found recurrence of pregnancy tumor in 16% of cases. The recurrence was believed to occur due to incomplete excision, failure to remove etiological agents or re-injury to that area. The rate of re occurrence is the highest in the gingival and mucosal lesions. However in this case report none of the cases showed recurrence.

In the 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 are failing to resolve should be surgically excised. Follow-up of the patient is needed because pyogenic granuloma exhibits a tendency to recur.¹⁴

CONCLUSION

Pyogenic granuloma is a non-neoplastic growth in the oral cavity, proper diagnosis, prevention, management, and treatment of the lesion is very important. It should be emphasized that during pregnancy, careful oral hygiene, removal of dental plaque, and use of soft toothbrushes are important to avoid the occurrence of pyogenic granuloma.

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