

## MANAGEMENT OF A RECURRING PREGNANCY TUMOR: A CASE REPORT

Vivek Jalali\*<sup>1</sup>, Sanjay Gupta<sup>2</sup>, Neelu Verma<sup>3</sup>, Sarita Tripathi<sup>4</sup>, Sanat Mishra<sup>5</sup> and Piyush Gowrav<sup>6</sup>

<sup>1</sup>JR3, Department of Periodontology, Career Post Graduate Institute of Dental Sciences and Hospital, Lucknow.

<sup>2</sup>Professor & Head, Department of Periodontology. Career Post Graduate Institute of Dental Sciences and Hospital, Lucknow.

<sup>3</sup>Sr. Lecturer, Department of Periodontology, Career Post Graduate Institute of Dental Sciences and Hospital, Lucknow.

<sup>4</sup>Post Graduate Student, Department of Periodontology, Career Post Graduate Institute of Dental Sciences and Hospital, Lucknow.

<sup>5,6</sup>Post Graduate Student, Career Post Graduate Dental College and Hospital, Lucknow.

Article Received on  
14 Dec. 2018,  
Revised on 04 Jan. 2019,  
Accepted on 25 Jan. 2019  
DOI: 10.20959/wjpr20192-14211

### \*Corresponding Author

**Dr. Vivek Jalali**

JR3, Department of  
Periodontology, Career Post  
Graduate Institute of Dental  
Sciences and Hospital,  
Lucknow.

### ABSTRACT

Pregnancy tumor also known as Granuloma gravidarum (GG), which develops in the oral mucosa of pregnant women supposedly in response to chronic low-grade irritants<sup>[1]</sup>, under the influence of hormonal factors. It is a common growth in skin and mucous membrane.<sup>[2]</sup> In oral cavity it usually affects the gingiva in 70% of cases. It is also seen in areas of frequent trauma, such as lower lip, tongue, oral mucosa and palate.<sup>[3]</sup> The growth is usually seen in the second trimester of pregnancy, which may rapidly grow and acquire a large size. Following is the case report of a 25 years old female patient with a gingiva growth in upper anterior region since 3-4 months.

**KEYWORDS:** Pyogenic granuloma,(PG) Pregnancy tumor, Oral cavity.

### 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. Pregnancy tumor is a

specialised form of pyogenic granuloma that occurs in about 5% of cases of pregnancy,<sup>[4]</sup> possibly due to increased concentrations of estrogen and progesterone in blood, raising the levels of *Prevotella intermedia* in the subgingival biofilm, diminishing the host response to bacterial biofilm, increasing vascular permeability, favoring the infiltration of fluids into the perivascular tissues and thus enhancing the inflammatory response.<sup>[5]</sup> From the histopathological point of view, there are no differences between pregnancy tumor and pyogenic granuloma (PG).

The Year 1844, was likely when the first oral pyogenic granuloma was reported in literature by Hüllihen.<sup>[6]</sup> Two french surgeons Poncet and Dor in 1897 reported four patients with “vascular tumors” on the fingers.<sup>[7]</sup> The term “pyogenic granuloma” or “granuloma pyogenicum”, was coined by Hartzell in 1904<sup>[8]</sup>, though it is a misnomer as the condition is neither pyogenic nor granulomatous.<sup>[9]</sup>

Clinically it presents as a small, deep red to reddish purple, smooth, lobulated or occasionally warty lesion which may be ulcerated and show tendency to bleed on slight trauma. It may be pedunculated or sessile and may develop as dumb-bell shaped or mushroom shaped mass. It is generally painless and soft in consistency, but may be painful at times. Partial or complete regression is common after child birth.

### CASE REPORT

A 25-year-old female in her second trimester of pregnancy came to the Department of Periodontology, Career post graduate institute of dental sciences and hospital, Lucknow with a complaint of gingival overgrowth in maxillary anterior region, **Figure.1**. According to patient she initially noticed a small growth about 2 months back, which grew to a large size in last 2 weeks. Intraoral examination revealed a 2×1.4 cm, soft, pedunculated, irregularly shaped, tissue mass attached to the marginal gingiva inter proximally between 11 and 21.

It extended buccally covering the cervical third of 11 and 21. Pain and bleeding on slight provocation was also present, patient had inconvenience while chewing.

IOPA radiograph revealed interdental alveolar crestal bone resorption irt 11, 21. **Fig.2**.

Due to interference of the lesion in day to day mastication, and oral hygiene maintenance, it was decided to surgically excise the growth. The hemogram of the patient was within normal

limits and excisional biopsy of the growth was carried out under local anesthesia. The excised specimen as shown in **fig.3** was sent for histopathological examination. H&P photomicrograph **fig. 4** revealed epithelial proliferation and underlying capillary proliferation with engorged red blood cells and endothelial cell proliferation along with marked inflammatory cell infiltration seen in connective tissue. One week post operatively the lesion had completely healed and gingival was clinically healthy. **Fig.5.**

Patient's history, clinical, radiographical and histopathological findings were suggestive of pregnancy tumor.



**Fig. 1: Gingival overgrowth irt 11,21.**



**Fig. 2: Radiograph revealed interdental alveolar crestal bone resorption.**

 A photograph of a small, reddish, lobulated excised specimen resting on a green surgical drape.	<p><b>Fig. 3: Excised specimen.</b></p>
 A photomicrograph of an H and E stained histological section showing ulcerated stratified squamous epithelium. A yellow arrow points to the ulcerated area. The underlying stroma contains budding capillaries, plump fibroblasts, and a dense chronic inflammatory cell infiltrate.	<p><b>Fig. 4: Photomicrograph of H and E stained section showing ulcerated stratified squamous epithelium with an underlying fibrovascular stroma including large number of budding capillaries, plump fibroblasts and a dense chronic inflammatory cell infiltrate.</b></p>
 A clinical photograph showing the patient's upper teeth and gingiva one week after surgery. The gingiva appears healed with some residual redness and swelling.	<p><b>Fig. 5: One week post operative view.</b></p>

## DISCUSSION

According to Tumini, et al., pregnancy tumor is a result of gingivitis that leads to local hyperplasia,<sup>[10]</sup> the hormonal imbalance coincident with pregnancy heightens the organism's response to irritation. Plaque and gingival irritation are necessary for subclinical alterations leading to gingival inflammation. Generally in first months of pregnancy, the persistent influence of plaque induces inflammation of the gingiva that serves as a base for development of hyperplastic gingivitis. In uncontrolled cases, modulated by hormonal stimuli PG may arise.

Recent studies have revealed that sex hormones manifest a variety of biological and immunological effects. Estrogen stimulate Granulocyte-Macrophage-Colony Stimulating Factor(GM-CSF), basic Fibroblast Growth Factor(bFGF) and Transforming Growth Factor beta(TGF $\beta$ 1) which lead to granulation tissue formation. Estrogen also enhances Vascular Endothelial Growth Factor(VEGF) production in macrophages. All these may play a role in PG manifestation.<sup>[11]</sup> Ojanotko-Harri *et al.*<sup>[12]</sup> suggested that progesterone functions as an immunosuppressant in the gingival tissues of pregnant women, preventing a rapid acute inflammatory reaction against plaque, but allowing an increased chronic tissue reaction, resulting clinically in an exaggerated appearance of inflammation.

Although conservative surgical excision and removal of causative irritants are the usual treatments, the excision should extend down to the periosteum and proper prophylaxis should be done, specially of the adjacent teeth to remove the source of continuing irritation. Other treatment protocols other than surgical excision are, Nd:YAG or CO<sub>2</sub> laser. Flash lamp pulsed dye laser, cryosurgery, electrodesiccation among others.

## CONCLUSION

There is some disagreement about the validity of the clinical term "pregnancy tumor." On the basis of its clinical presentation and histologic appearance, some authors believe that it simply represents a pyogenic granuloma (PG), whereas others believe that the lesion is unique because of the apparent influence of female sex hormones. Although pregnancy tumor is a non neoplastic growth in the oral cavity, proper diagnosis, management and treatment of the lesion are very important, specially during pregnancy. It arises in response to various stimuli such as low grade local irritation, traumatic injury, sex hormones, so removal of causative irritants (plaque, calculus, foreign materials) is paramount. Recurrence is not infrequent so in some cases re-excision may be necessary. During pregnancy, careful oral hygiene, and proper oral prophylaxis should be maintained to avoid such lesions.

## REFERENCES

1. Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and maxillofacial pathology. 2<sup>nd</sup> ed, WB Saunders, Philadelphia, 437-495.
2. Gencoglan G, Inanir I, Gündüz K (2009) Pyogenic granuloma in two children successfully treated with imiquimod 5% cream. *Pediatr Dermatol*, 26: 366-368.

3. Rai S, Kaur M, Bhatnagar P. Laser: A powerful tool for treatment of pyogenic granuloma. *J Cutan Aesthet Surg*, 2011; 4: 144-7.
4. Sills ES, Zegarelli DJ, Hoschander MM, Strider WE. Clinical diagnosis and management of hormonally responsive oral pregnancy tumor (pyogenic granuloma). *J Reprod Med.*, 1996; 41: 467-70.
5. Mealey BL, Moritz AJ. Hormonal influences: effects of diabetes mellitus and endogenous female sex steroid hormones on the periodontium. *Periodontol*, 2000. 2003; 32(1): 59-81.
6. Hullihen SP(1844) Case of aneurism by anastomosis of the superior maxillae. *Am J Dent Sc.*, 4: 160-162.
7. Poncet A, Dor L (1897) Botyromyose humaine. *Rev Chir.*, 18: 996.
8. Hartzell MB (1904) Granuloma pyogenicum. *J Cutan Dis Syph*, 22: 520-525.
9. Leung AK (2011) Pyogenic granuloma. In: Leung AK, ed. *Common Problems in Ambulatory Pediatrics: Specific Clinical Problems*. Nova Science Publishers, Inc., 143-147.
10. Tumini V, Di Placido G, D'Archivio D, Del Giglio Matarazzo A. Hyperplastic gingival lesions in pregnancy. I. Epidemiology, pathology and clinical aspects. *Minerva Stomatol*, 1998; 47: 159-67.
11. Kanda N, Watanabe S (2005) Regulatory roles of sex hormones in cutaneous biology and immunology. *J Dermatol Sci.*, 38: 1-7.
12. Ojanotko-Harri AO, Harri MP, Hurttia HM, Sewon LA(1991) Altered tissue metabolism of progesterone in pregnancy gingivitis and granuloma. *J Clin Periodontol*, 18: 262-266.