AN UNUSUALLY LARGE INTRA-ORAL "AGGRESSIVE PREGNANCY TUMOUR" MIMICKING A GIANT CELL GRANULOMA : A CASE REPORT

Dr. Inderpreet Singh Narula Senior Lecturer
Dr. K.K.Chaubey Professor
Dr. V.K.Arora Professor
Dr. Rajesh K Thakur Associate Professor
Dr. Zeba Jafri Senior Lecturer
Dr. Shalabh Mehrotra PG Student

Dept. of Periodontics, Kothiwal Dental College Research Centre, Mora mustaqueem, kanth road, Moradabad

Abstract

Pyogenic Granuloma (PG) is an "inflammatory hyperplasia" of the oral mucosa that histologically describes inflamed fibrous and granulation tissue. Some other terms used are "granuloma teleangiectaticum", "pregnancy tumor" and "epulis gravidarum". PG has a high incidence especially in pregnant females. The lesions tend to occur more often during the second and third trimester of pregnancy and such lesions are referred to as 'pregnancy tumours'. Increased prevalence of pregnancy epulis towards the end of pregnancy and its tendency to shrink after delivery indicate a definitive role of hormones in the etiology of the lesion. Sex hormonal changes observed during pregnancy are said to play an important role in its formation and development. Maintaining a good oral hygiene and use of plaque control measures can avoid the occurrence of Pyogenic Granuloma.

Key-words: Pyogenic granuloma, inflammatory hyperplasia, hemangioma, non-neoplastic.

Introduction

Granuloma gravidarum (pregnancy tumor) is a pyogenic granuloma (PG) which develops on the gingiva during pregnancy. PG is an "inflammatory hyperplasia" of the oral mucosa that histologically describes inflamed fibrous and granulation tissue.[1,2] The term "pyogenic granuloma" is somewhat a misnomer in that the lesion is not pus-producing, as "pyogenic" implies. It is however, a tumor of granulation tissue and has also been called an "epulis" because it is located more frequently in the gingiva. Some other terms used are "granuloma teleangiectaticum" and "pregnancy tumor" also called "epulis gravidarum".

This benign hyperplastic lesion of the oral mucosa occurs in up to 5% of pregnancies. This rapidly growing lesion is typically a painless sessile or pedunculated gum mass, of varied diameter. Spontaneous hemorrhage or bleeding following brushing is observed in some cases. Clinical differential may include fibrous inflammatory hyperplasia, palatal papillary hyperplasia, and giant cell granuloma.

Hartzell,1904, introduced the term 'pyogenic granuloma' or 'granuloma pyogenicum'.[3] Two types of PG are lobular capillary hemangioma(LCH) and non-LCH.[4] Clinically oral PG is smooth or lobulated exophytic lesion manifesting as small, red erythematous papules on pedunculated or sometimes sessile base, which is usually hemorrhagic and compressible.[1]

Since oral PG has a high incidence especially in pregnant females, this paper discusses its clinical and histopathologic features as well as its correlation with pregnancy and its management.

Case Report

A female patient aged 25yrs reported with a complaint of bleeding and swollen gingiva in relation to maxillary palatal region. The swelling started to appear in her 2nd trimester of pregnancy and used to bled even on slight provocation. The swelling had increased in size since then. She reported 2 months after the completion of her term. Oral examination revealed a small lobulated and exophytic lesion extending interdentally between 2nd premolar and 1st maxillary molar (Fig-1). Palatal area showed the presence of a friable, erythematous, pedunculated, and exophytic lesion extending antero-posteriorly from the mesial margin of 2nd premolar upto the distal margin of the 2nd maxillary molar, and supero-inferiorly it extended 15mm from the marginal gingiva towards the mid-palatal region (Fig-2). On exploration of its base, it started to bleed giving an indication of its inflammatory nature. Considering the clinical appearance and the recent history of pregnancy, a provisional diagnosis of "Granuloma Gravidarum (pregnancy tumor)" was made. Excisional biopsy of the lesion was taken and sent for histo-pathological examination.

Histopathologic Features

Hematoxillin & Eosin stained sections revealed the presence of parakeratinized stratified squamous epithelium with inflamed fibrocellular connective tissue. Superficial epithelium showed the features of hyperplasia, atrophy with areas of ulceration filled with fibrocellular exudate and inflammatory cells. Connective tissue stroma juxta epithelially revealed presence of small and large dilated blood capillaries lined by large , plump, proliferating endothelial cells and arranged in the form of interlacing network, intermixed with chronic inflammatory cells , with deep areas of section showing fibrosis.

Histopathological Diagnosis

Corroborating the overall clinico-pathological features, final diagnosis of "Aggressive Pregnancy Tumour" was done.

Discussion

PG is considered to be a benign neoplasm, considered a reactive tumour-like lesion arising from chronic low-grade local irritation, secondary to minor injury and/or infection which stimulates the formation of an exuberant

overgrowth of young highly vascular granulation tissue.[5-8]

Pyogenic granuloma is histologically similar to capillary hemangioma and on the gingiva is clinically and microscopically identical to the so-called pregnancy tumor.[9-11] An exaggerated response of the lesion has also been related to hormonal changes in women aged between ten and forty years. [11-13] Pyogenic granuloma is a reactive non-neoplastic overgrowth that can be prevented by good oral hygiene measures and patient education. The lesion must be excised completely with the removal of local factors to prevent recurrence which is reported in the literature to be high when surgical excision is inadequate. Most studies demonstrate a definite female predilection with a female to male ratio of 2:1. This is attributed to the vascular effect of female hormones that occur in women during puberty, pregnancy, and menopause. The lesions tend to occur more often during the second and third trimester of pregnancy and such lesions are referred to as 'pregnancy tumours'. Increased prevalence of pregnancy epulis towards the end of pregnancy and its tendency to shrink after delivery indicate a definitive role of hormones in the etiology of the lesion.[2] Clinical diagnosis of 'pregnancy tumour' can be given when describing a pyogenic granuloma occurring in pregnancy, because it describes a distinct lesion not on the basis of histologic features but on etiology, biologic behaviour, and treatment protocol.[5,14,15]

PG shows a recurrence rate of around 16% after excision, and re-excision may be required.[1,5] Recurrence is believed to result from incomplete excision, failure to remove etiologic factors, or re-injury of the area.[16]

Conclusion

Although PG is a non-neoplastic growth, proper diagnosis, prevention and its management are very important. Many etiologic factors play an important role in its formation such as local irritant factors, traumatic injuries, sex hormones or the use of certain drugs. Though the surgical excision is the treatment of choice for PG, newer treatment modalities such as the use of cryosurgery, Nd-YAG laser, pulsed dye laser have also been reported. Even then recurrence is reported and re-excision may be necessary. Emphasizing point is the sex hormonal changes observed during pregnancy that are said to play an important role in the formation and its development. Thus during pregnancy , maintaining a good oral hygiene and use of plaque control measures such as the use of soft toothbrushes are important to avoid the occurrence of Pyogenic Granuloma.

References

1. Eversole LR (2002) Clinical outcome of oral pathology: diagnosis and treatment.3rd ed, BC Decker, Hamilton, 113-114
2. Greenberg MS, Glick M (2003) Burket's oral medicine: diagnosis and treatment. 10th ed, BC Decker, Hamilton, 141-142
3. Hartzell MB (1904) Granuloma pyogenicum. J Cutan Dis Syph 22, 520-525
4. Epivatianos A, Antoniades D, Zaraboukas T, Zairi E, Poulopoulos A, Kiziridou A, Iordanidis S (2005). Pyogenic granuloma of the oral cavity: comparative study of its clinicopathological and immunohistological features. Pathol Int 55, 391-397.
5. Neville BW, Damm DD, Allen CM, Bouquot GE (2002) Oral and maxillofacial pathology, 2nd ed, WB Saunders, Philadelphia, 437-495.
6. Vilmann A, Vilmann P, Vilmann H. Pyogenic granuloma: evaluation of oral conditions. Br J Oral Maxillofac Surg 1986; 24 (5): 376-382.
7. Ainamo J. The effect of habitual tooth cleaning on the occurrence of periodontal disease and dental caries. Suomen Hammaslääkariseuran Toimituksia 1971; 67: 63.
8. Davies 1980 Davies MG, Barton SP, Atai F, Marks R. The abnormal dermis in pyogenic granuloma. J Am Acad Dermatol 1980; 2:132.
9. Allen NE. Pregnancy tumor superimposed upon a nevus. Report of a case. Oral Surg 1960; 13: 657.
10. Tumini V, Di Placido G, D'Archivio D, Del Giglio MA. Hyperplastic gingival lesions in pregnancy. I. Epidemiology, pathology and clinical aspects. Minerva Stomatol 1998; 47(4): 159-167.
11. Yuan K, Wing LY, Lin MT. Pathogenetic roles of angiogenic factors in pyogenic granulomas in pregnancy are modulated by female sex hormones. J Periodontol 2002; 73(7): 701-708.
12. Daley TD, Nartey NO, Wysocki GP. Pregnancy tumor: an analysis. Oral Surg Oral Med Oral Pathol 1991; 72(2): 196-199.
13. Papageorge MB, Doku HC. An exaggerated response of intra-oral pyogenic granuloma during puberty. J Clin Pediatr Dent 1992; 16(3): 213-216.
14. Sapp JP, Eversole LR, Wysocki GP: Contemporary oral and maxillofacial pathology, 2nd ed, Mosby, Missouri, pages 318-19,2004.
15. Daley TD, Nartey NO, Wysocki GP: Pregnancy tumour: an analysis, Oral Surg Oral Med Oral Pathol 72:196-9,1991.
16. Regezi JA, Sciubba JJ, Jordan RCK (2003) Oral pathology: clinical pathological considerations. 4th ed, WB, Saunders, Phialdelphia, 115-116.

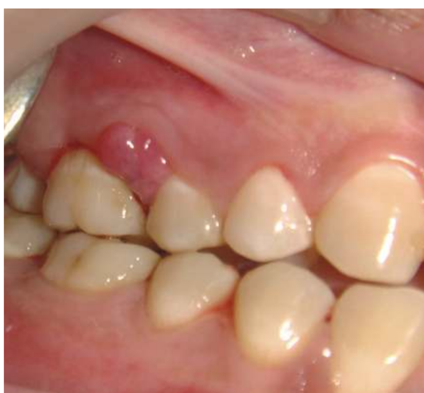

Fig-1 Buccal view of the lesion

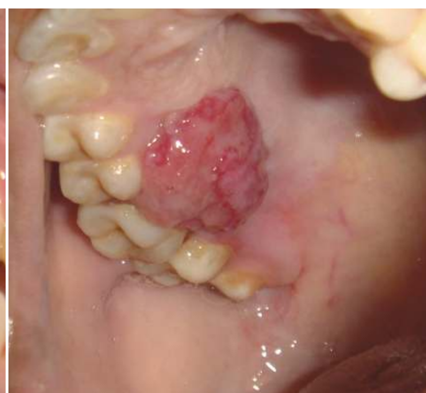

Fig-2 Intra-oral palatal Pyogenic Granuloma

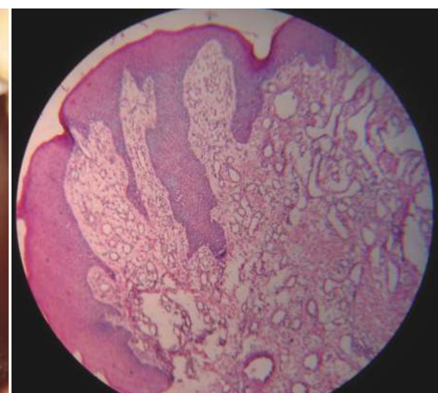

Fig-3 Histopathological section of the lesion