International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614
Available Online at www.journalijcar.org
Volume 9; Issue 02 (A); February 2020; Page No.21170-21173
DOI: http://dx.doi.org/10.24327/ijcar.2020.21173.4152

Research Article

MANAGEMENT OF PYOGENIC GRANULOMA OF HARD PALATE: A CASE REPORT

Dr.Disha Damodaran*, Dr.Nandini Manjunath and Dr.Arya Ashok

Department Of Periodontics, A J Institute Of Dental Sciences, Mangalore

A R T I C L E I N F O

Article History:
Received 12th November, 2019
Received in revised form 23rd November, 2019
Accepted 7th January, 2019
Published online 28th February, 2020

Key words:
Palatal pyogenic granuloma,diabetes,hemangioma

A B S T R A C T

The pyogenic granuloma is a common tumour like growth of the oral cavity. It occurs as a result of exuberant tissue response to local irritation and trauma. Its name being a misnomer, it is not a true granuloma. Gingiva, lips, tongue and buccal mucosa are the most frequent sits of occurrence. Occurrence of Pyogenic granuloma on the palate is rare. This case report describes a rare case of Palatal pyogenic granuloma in a diabetic patient and its management.

INTRODUCTION

Pyogenic granuloma (PG) is a kind of inflammatory hyperplasia [1] and also known as lobular capillary hemangioma which is a benign vascular tumour that occurs on the skin and mucous membranes. Occasionaly, it can be found subcutaneously or intravascularly. It is spontaneous in origin in sites of injury, or within capillary malformations [2]. The term "pyogenic granuloma (PG)" is a misnomer because the lesion does not contain pus and histologically does not represent a granuloma.[3]It is non-neoplastic in nature.[4]The first reported case of PG in English literature was by Hullihenin 1844.[5] Various names were suggested by authors such as granuloma gravidarum or pregnancy tumors, Rocker and Hartzell's disease, vascular epulis, benign vascular tumors, epulis telangectium granulomatousa, and lobular capillary hemangioma (LCH). [5]The term "PG" or "granuloma pyogenicum" was introduced by Hartzell (1904).Hence, it was also called a Crocker and Hartzell's disease.[6]

Pyogenic granuloma occurs in response to various stimuli such as low grade local irritation, traumatic injury, hormonal factors, or certain kinds of drugs. This is formed as a result of localized exaggerated reaction of connective tissue to minor injury or to any underlying irritation, calculus, poor oral hygiene, nonspecific infection, overhanging restorations, cheek biting etc. This irritation causes hyperplasia of underlying fibro vascular connective tissue, and there is a proliferation of granulation tissue which leads to the formation of a PG.[7]Inducible nitric oxide synthase, vascular endothelial growth factor, or connective tissue growth f actor are known to be involved in angiogenesis and rapid growth of PG.[8]

It was described as "hemangiomatous granuloma" by Angelopoulos due to the presence of numerous blood vessels and the inflammatory nature of the lesion[9] and also as "granuloma telangiectacticum" by Cawson *et al* due to the presence of numerous blood vessels seen in histological sections. Lobular Capillary Hemangioma and the Non Lobular Capillary Hemangioma are the two forms of Pyogenic granuloma .[10]

Although PG may occur in all ages, It is predominant in the second decade of life in young adults. Mainly affects females, possibly because of the vascular effects of female hormones.[11,12] During pregnancy, the changes in the hormonal level exaggerate the response to local irritants, which leads to the formation of pregnancy tumor. Main site for occurrence of oral pyogenic granuloma are gingiva, lips, tongue and buccal mucosa are the next most common sites[13]. I toccurs rarely in the palatal region.This case report describes a rare case of Palatal pyogenic granuloma and its management.

Case Report

A 26 year old male patient reported to the outpatient Department of Periodontics, with a complaint of swelling and growth on the incisive papilla of palate since 25 days. The growth started as a small nodule, which gradually increased in size. Patient gave history of mild discomfort and occasional bleeding from the lesion . Patient was diabetic and he had tobacco chewing habit.

On extraoral examination no abnormalities were detected. On intraoral examination, supragingival and subgingival calculus

Corresponding author:* **Dr.Disha Damodaran
Department Of Periodontics, A J Institute Of Dental Sciences, Mangalore

was present (Figure: 1) . A well defined pedunculated soft tissue growth was evident in the base of incisive papilla region extending from 12 to 22 palatal region (Figure 2). It was reddish in colour, lobular and certain parts of the lesion had white patches. It was oval in shape with irregular margin (Figure: 3) and measured approximately 14mm * 13mm in size(Figure 4 and Figure : 5)**.**The growth was soft to firm in consistency, non-tender and hemorrhagic, vascular and fluctuant in nature. Periodontal examination revealed poor oral hygiene.

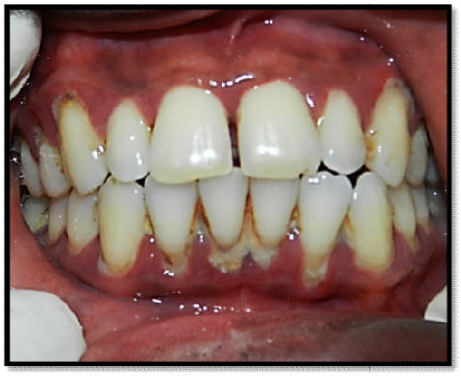

Figure 1

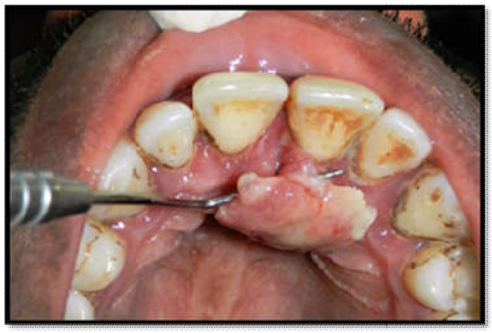

Figure 2

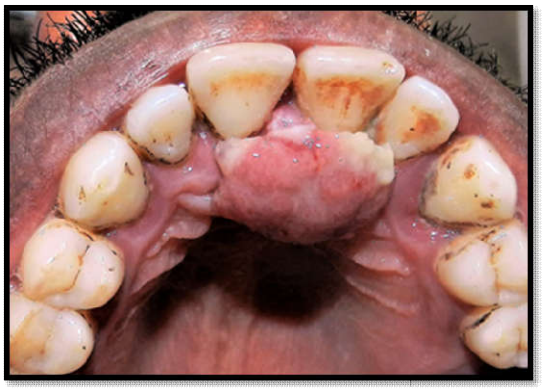

Figure 3

Figure 4

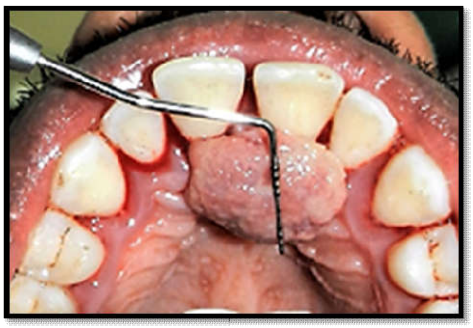

Figure 5

Radiographically there was no apparent bone changes.There was only horizontal bone loss and there was no visible abnormalities in the region of the growth(Figure :6). The lesion was provisionally diagnosed as PG based on the clinical and radiographic findings.

The differential diagnosis comprised of peripheral giant cell granuloma, peripheral ossifying fibroma, hemangioma and hyperplastic inflammation

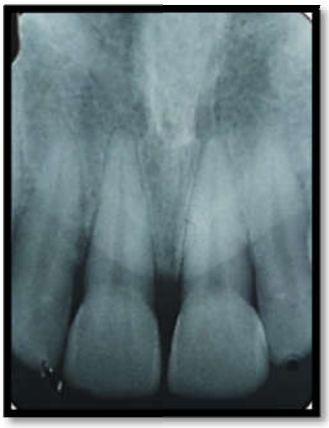

Figure 6

Written informed consent was obtained from the patient. Excisionl biopsy was carried out under local anesthesia (Figure: 7) and specimen was stored in 10% formalin and then sent for histopathological examination (Figure:8). Patient was recalled subsequently after 1 week, 1 month, and 6 months.The healing was uneventful with no signs of recurrence (Figure : 10).

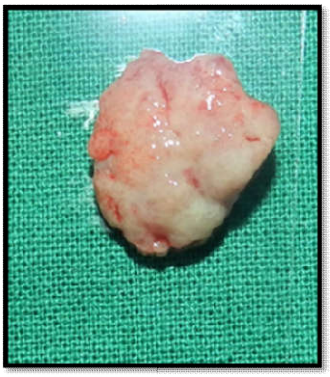

Figure 7

Figure 8

Histopathology showed stratified squamous parakeratinized epithelium of varying thickness and underlying connective tissue. The connective tissue stroma showed presence of numerous loose delicate proliferating endothelial cells in form of budding capillaries and many larger vascular spaces. Abundant chronic inflammatory cells were seen throughout the section (Figure:9).The pathology report obtained from the pathologist stated that "histopathological features were suggestive of capillary hemangioma or pyogenic granuloma with inflammatory component.

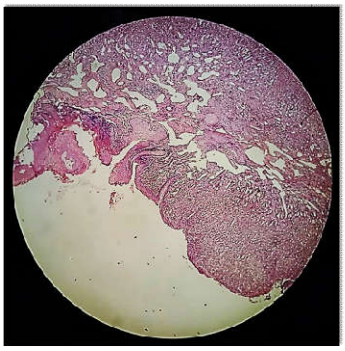

Figure 9

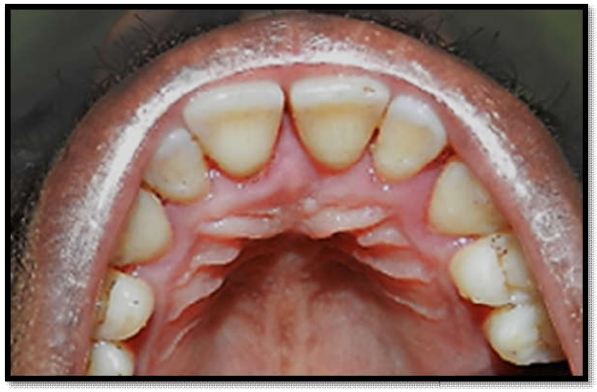

Figure 10

Due to the dilemma, both histopathology and clinical features were correlated, its clinical signs and symptoms, confirmed the original diagnosis of Pyogenic granuloma.

DISCUSSION

Earlier Pyogenic granuloma, was thought to represent a fungal infection (Botryomycosis), but later it was suggested that they might occur as a reactive inflammatory process associated with exuberant fibrovascular proliferation of the connective tissue secondary to trauma and infection. [14] According to Regezi *et al*, Pyogenic Granuloma is caused by a known stimulant or injury such as calculus or foreign material within the gingival crevice resulting in exuberant proliferation of connective tissue.[15] In this case report, we found that pyogenic granuloma had etiology of trauma and local irritation due to poor oral hygiene.

Hormonal imbalances may be a precipitating factor in many patients. In this case, uncontrolled high levels of blood glucose in addition to poor oral hygiene are believed to contribute to the considerable size of the lesion.

Oral pyogenic granuloma occurs in children to older adult. They are mostly encountered in females in second and third decades of life[16]. Many authors have reported gingiva as the most commonly affected intraoral region followed by lips, tongue, palate and buccal mucosa.[17,18]The size varies from few millimetre to few centimetre and is usually slow growing asymptomatic, painless growth but at times grows rapidly.[17] In this present case there was rapid soft tissue growth which involved the palatal region and was interfering with speech and mastication.

Radiographic findings are usually absent but according to Angelopouis[9] long standing cases of gingival pyogenic granuloma cause localized alveolar bone resorption. Histologically it was confused with capillary hemangioma as histological section showed the features similar to hemangioma.

The differential diagnosis of PG includes peripheral ossifying fibroma, peripheral giant cell granuloma, hemangioma, peripheral odontogenic fibroma, hyperplastic gingival inflammation, conventional granulation tissue, Kaposi's sarcoma, angiosarcoma, bacillary angiomatosis, non-Hodgkin's lymphoma and metastatic cancers. Histopathological investigations helps in the final diagnosis.

Various treatment modalities such as surgical excision, electric cauterization, cryosurgery, sodium tetradecyl sulfate sclerotherapy, monoethanolamine oleate ligation, absolute ethanol injection, cauterization with silver nitrate, intralesional steroids, flash lamp pulsed dye laser, neodymium-doped yttrium aluminium garnet (Nd:YAG) laser, carbon dioxide (CO2) laser, erbium-doped yttrium aluminum garnet (Er:YAG) laser and diode laser are available. [19]Surgical excision of the lesion with 2 mm margins at its clinical periphery and upto the periosteum is usually recommented.[20]Irritant agents such as dental plaque, calculus, foreign bodies, defective restoration and source of trauma should be eliminated during excision.[21]

Recurrence rate after simple excision is comparatively high due to deficient excision, failure to eliminate etiologic factors or re-injury of lesions. Pyogenic granuloma of gingiva has a higher recurrence than other oral mucosal PG. Recurrence after surgery in extragingival sites are very rare.

CONCLUSION

Oral pyogenic granuloma may have an unusual presentation and it is a common cause of soft tissue lesion in oral cavity but it causes a diagnostic dilemma to the treating surgeon. Knowledge of their clinical features , demographics and understanding patients medical history is essential to make a correct diagnosis.

References

1. Hamid Jafarzadeh, Majid Samatkhani, Nooshin Mohtasham. Oral pyogenic granuloma :a review .J Oral Sci.2006; 48 (4):167-175
2. Giblin AV, Clover AJ, Athanassopoulos A, Budny PG. Pyogenic granuloma - the quest for optimum treatment: an audit of treatment of 408 cases. J Plast Reconstr Aesthet Surg. 2007;60 (9):1030-5.
3. Hullihen SP. Case of aneurism by anastomosis of superior maxillae. Am J Dent Sci 1884;4:160-2.
4. Vilmann A, Vilmann P, Vilmann H.Pyogenic granuloma: evaluation of oral conditions.Br J Oral Maxillofac Surg.1986;24:376-382
5. Hullihen SP.Case of aneurism by anastomosis of the superior maxillae Am J Dent Sci.1844 ;4:160-162
6. Hartzell MB. Granuloma pyogenicum (botryomycosis of French authors). J Cutan Dis 1904; 22:520-3.
7. Verma PK, Srivastava R, Baranwal HC, Chaturvedi TP, Gautam A, Singh A. "Pyogenic granuloma – Hyperplastic lesion of the gingiva: Case reports". Open Dent J 2012;6:153-6
8. Mathur LK, Bhalodi AP, Manohar B, Bhatia A, Rai N, Mathur A. Focal fibrous hyperplasia: A case report. Int J Dent Clin 2010; 2:56-7.
9. Angelopoulos AP. Pyogenic granuloma of the oral cavity: Statistical analysis of its clinical features. J Oral Surg 1971; 29:840-7.
10. Cawson RA, Binnie WH, Speight PM, Barrett AW, Wright JM. Lucas Pathology of Tumors of Oral Tissues. 5th ed. Missouri: Mosby; 1998. p. 252-4.
11. Mussalli NG, Hopps RM, Johnson NW. Oral pyogenic granuloma as a complication of pregnancy and the use of hormonal contraceptives. Int J Gynaecol Obstet 1976;14:187-91.
12. Neville BW, Allen CM, Douglas DD, Bouquot JE. Oral and Maxillofacial Pathology. 2nd ed. Philadelphia: Saunders. 2002; 447-9
13. Greenberg MS, Glick M, Jonathan A. Burket's Oral Medicine. 11th ed. Hamilton: BC Decker; 2008. 133-4.
14. Akyol MU, Yalçiner EG, Doğan AI. Pyogenic granuloma (lobular capillary hemangioma) of the tongue. Int J Pediatr Otorhinolaryngol 2001;58:239- 41.
15. Regezi JA, Sciubba JJ, Jordan RC. Oral Pathology: Clinical Pathologic Considerations. 4th ed. Philadelphia: WB Saunders; 2003. 115-6.
16. Hosseini FH, Tirgari F, Shaigan S. Immunohistochemical analysis of estrogen and progesterone receptor expression in gingival lesions. IranJ Public Health 2006;35:38-41
17. Aveolar RL, Antunes AA, Carvalho RW, Santos TS, Neto PJ, Andrade ES. Oral pyogenic granuloma: A epidemiologic study of 191 cases. RGO. 2008; 56:131-5.
18. Saravana GH. Oral pyogenic granuloma: A review of 137 cases. Br J Oral Maxillofac Surg. 2009;47:318-9.
19. Güzin Neda Hasanoglu Erbasar1, Burcu Senguve. Management of a Recurrent Pyogenic Granuloma of the Hard Palate with Diode Laser: A Case Report.J Lasers Med Sci.2016;7(1):56-61
20. Jafarzadeh H, Sanatkhani M, Mohtasham N. Oral pyogenic granuloma: a review. J Oral Sci. 2006; 48:167-175.
21. Fekrazad R, Nokhbatolfoghahaei H, Khoei F, Kalhori KA. Pyogenic granuloma: surgical treatment with Er:YAG Lasers .J Lasers Med Sci.2014;5:199-205.

How to cite this article:

Dr.Disha Damodaran, Dr.Nandini Manjunath and Dr.Arya Ashok (2020) 'Management of Pyogenic Granuloma of Hard Palate: A Case Report', *International Journal of Current Advanced Research,* 09(02), pp. 21170-21173.
DOI: http://dx.doi.org/10.24327/ijcar.2020. 21173.4152

****