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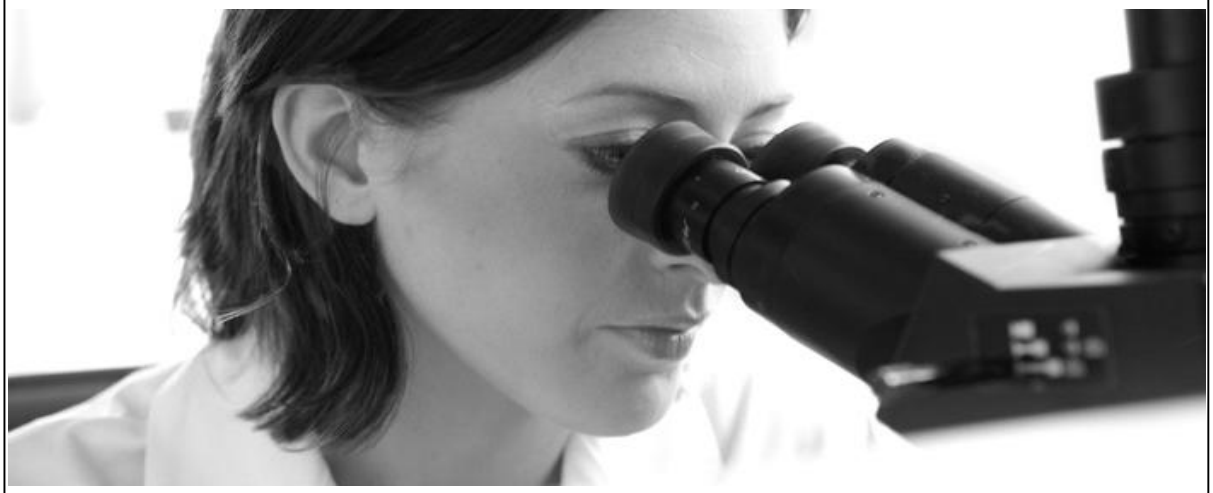

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RESEARCH ARTICLE

# A MYSTERIOUS CASE OF RECURRENT PYOGENIC GRANULOMA

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**ABSTRACT**

Pyogenic granuloma is a relatively common benign mucocutaneous lesion. The present case describes the clinical and histopathological features of a recurrent pyogenic granuloma, in a 21-year-oldmale patient. The lesion presented as an exophyticreddish pink mass, related to a toothpick injury, in the mandibular right posterior region. Conservative excision was performed, followed by uncomplicated healing, however it showed repeated recurrence in the same site. The histopathological examination reported a pyogenic granuloma (lobular capillary haemangioma). A more radicular treatment plan was executed with extraction of adjacent tooth and removal of 1 centimetre of surrounding healthy tissue followed which, there was no recurrence for 6 months and patient has been scheduled for regular recall.



## INTRODUCTION

Pyogenic granuloma is primarily an oral disease seen as an overgrowth of tissue due to irritation, physical trauma or hormonal factors.[1]The term "Pyogenic granuloma" introduced by Hartzell in 1904, is a misnomer because the lesion neither contains pus nor strictly granulation.[2,3,4] Based on histological features of numerous blood vessels Cawson *et al*. have described the lesion as "granuloma telangiectacticum". They described two forms of pyogenic granulomas, the lobular capillary hemangioma (LCH) and the non-lobular capillary hemangioma (non-LCH).[5]Different investigators have suggested wide range of etiologic factors, such as chronic low grade trauma,[6] physical trauma,[7] hormonal factors,[8]bacteria, viruses[9] and certain drugs[10]have been implicated as causative factors in the development of pyogenic granulomas.

***Case report***

Aim of this paper is to report a mysterious case of pyogenic granuloma. 21 year old male patient reported to Department of Periodontology, D. A. P. M. R. V. Dental College with a chief complaint of swollen gums in lower right back tooth region since 6 months.

History reveals that the growth started as a small soft painless swelling, which gradually increased to the present size. Patient gives a history of bleeding from the lesion and had got localised deep scaling for the same from a private dental clinic. However lesion had not regressed and bleeding had not reduced. No significant medical history was present. On extraoral examination, there was no apparent abnormality detected.

There was not any palpable submandibular adenopathy. On intraoral examination, a solitary well-defined, sessile growth was evident in the buccal interproximal region between 46 and 47 measuring around 0.5cm X 0.4 cm X 0.1 cm in size, pyramidal in shape with regular margins, reddish pink in colour with certain parts of the lesion blanched. The growth was soft to firm in consistency, non-tender on palpation with a smooth compressible surface, no ulcerations found and lesion had a broad sessile base with evidence of bleeding from the base of the lesion [Figure 1a]. Oral hygiene was fairand no exacerbating local factors were identified. Teeth associated (46) with it had anocclusal amalgam restoration, tooth was non tender and did not show any periodontal pocket or mobility. Radiographically, there were no visible abnormalities and the alveolar bone in the region of the growth appeared normal [figure1c].

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**Fig 1a**Pre-Op Image

**Fig 1b** Tissue Excised

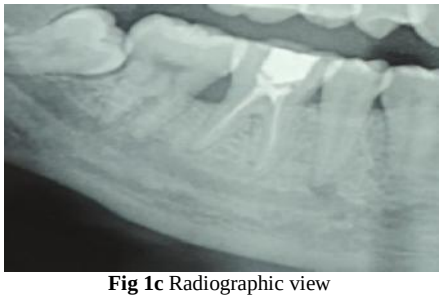

**Fig 1c** Radiographic view

**Fig 1d** Immediate Post-Op

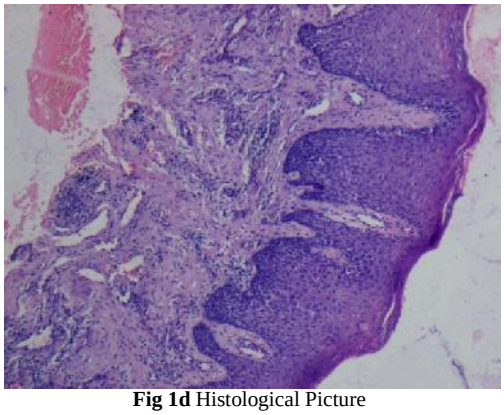

**Fig 1d** Histological Picture

**Fig 2a** First Recurrence (Buccal &Lingual View)

**2b**

**Fig 2c** Tissue Excised

**Fig 2d** Immediate Post Op

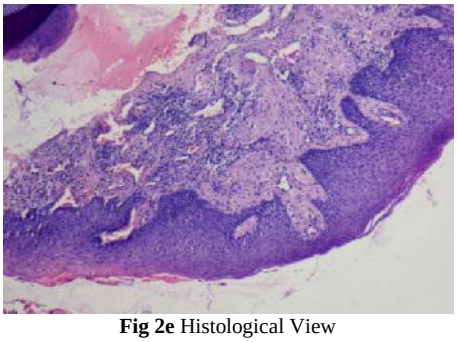

**Fig 2e** Histological View

**Fig 3a** Second Recurrence

**Fig3b** Extraction Of 46 & tissue excision

**Fig3c** Immediate Post Op

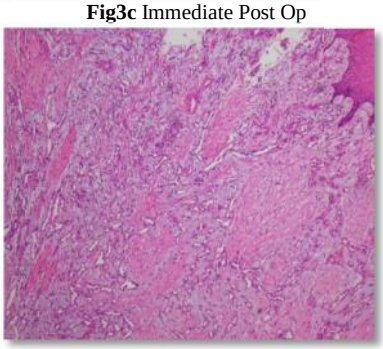

**Fig3d** histologic view

**Fig4e** one week post-op

**Fig 4a** third recurrence

**Fig 4b** tissue excised

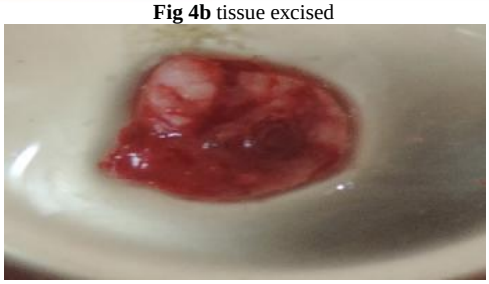

**Fig4c** immediate post op

**Fig 4d** 6 month post op

Based on the clinical findings the case was provisionally diagnosed as pyogenic granuloma. Case was prepared for excisional biopsy on the basis of the clinical and radiographic evidence. Oral prophylaxis was completed and the lesion was excised under aseptic conditions. Excision of the lesion up to and including the mucoperiosteum was carried out under local anesthesia using a sterile scalpel and disposable blade, followed by curettage and through scaling of the involved teeth [Figure 1b]. Post-operative instructions were given and the patient was recalled after 1 week for check-up. The excised tissue [figure 1d] was sent to the Department of Oral Pathology for histologic examination.

Haematoxylin and eosin stained sections showed parakeratinized stratified squamous epithelium. The underlying connective tissue is fibrous and exhibits numerous blood vessels of varying sizes and chronic inflammatory infiltrate. The histopathological examination confirmed the clinical diagnosis of Pyogenicgranuloma.[figure 1e]

Three weeks later patient reported back with a complaint of recurrent lesion in operated area. On examination, lesion had not only recurred on buccal region of 46,47 but also extended on to lingual region of 47.(figure 2a, 2b)

Clinical findings were similar to first visit however lesion had extending lingual to 46, 47.Since local irritational factors like calculus, subginigval restorations which could be cause for recurrence was absent, Patient was asked for history of using tooth pick or pins to clean the gum region. Patient disclosed that he attempted to remove the tissue with small wooden sticks after complete healing assuming that it may prevent its growth again. Patient was given strict instructions not to violate the tissue by any means.

Based on clinical findings, it was diagnosed as recurrent pyogenic granuloma. Tissue was excised and sent for histopathological examination.[figure 2c,2d]histological findings confirmed recurrent pyogenic granuloma(figure 2e). Post-operative instructions were given and not to disturb the tissue. Patient was recalled after one week for review and healing was uneventful. Patient was scheduled for monthly review.

Six week post-operatively patient reported back with recurrent lesion in the same area.[Figure 3a] On intra oral examination it was found that lesion recurred only on lingual aspect suspecting presence of nidus for the lesion. Opinion was taken from Department of Oral and Maxillofacial Surgery, it was suggested that presence of tooth 46 was an interference to gain complete accessibility hence extraction of 46 (Figure 3b) and excision of the lesion with Galium Aluminium Diode Laser was planned. Operating area was anesthetized and non-traumatic extraction of 46 was done followed by tissue excision using GaAlAs laser (Sirona soft tissue diode laser) of 980nm wavelength with the following parameters 5W in PW(T on 100ms and T off 100ms) in contact mode and using a fibre of 320-micron diameter was carried out. (Figure 3c) Tissue was sent for histopathological examination. histological diagnosis was capillary lobular hemangioma (A type of Pyogenic granuloma). (Figure 3d) Patient was recalled after a week and healing was uneventful. (Figure 3e)

Patient reported with recurrence of lesion in the extraction region after 3 weeks. Recurrence was expected, as the treatment of capillary lobular hemangioma involves wide excision with removal of normal tissue up to 1 centimetreperiphery to the lesion, however this was not done in previous excision. The lesion was reddish pink in colour, lobular, sessile growth, soft in consistency, non-tender and profuse bleeding on provocation was noticed. (Figure 4a) Treatment plan was more radicular, to remove all remnants and nidus of the lesion.(Figure 4b) Treatment plan included wide excision with removal of normal tissue up to 1 centimetre peripheral to the lesion and extraction of 47 and the surgical area was sutured to approximate buucal and lingual tissue surfaces (figure 4c). Tissue was sent for histologic examination. Patient was recalled after one week for check-up, healing was found to be uneventful. Patient did not show any signs of recurrence up-to 6 month post-op, patient is scheduled for monthly review.

## DISCUSSION

Pyogenic granuloma is a common lesion of the skin and oral cavity, especially the gingiva. PGs was originally thought to be a fungal infection (Botryomycosis), but later it was found that they arise as a reactive inflammatory process secondary to local trauma and irritation.[11] Ainamoreported that routine tooth brushing habits, use of tooth pickcan cause repeated trauma to the gingival tissue resulting in irritation& release of various endogenous substances and angiogenic factors causing disturbances in the vascularity of the affected area.[12] since pyogenic granuloma is often manifests in pregnant females is also called as granuloma gravidarum or pregnancy tumor.[6] Hormonal changes and reaction of plaque bacteria are responsible for pregnancy gingivitis in some pregnant female patients.[13] However, the effects of female hormones on oral pyogenic granulomas was questioned by Bhaskar and Jacoway since they found lesions both in males and females with no specific sex predilection.[14]

Oral pyogenic granulomas show a striking predilection for the gingiva as seen in the present case, which accounts for 75% of all cases.[15] Minor trauma and/or chronic irritation play major role in the etiopathogenesis of pyogenic granuloma in majority of the cases.[16] Differential diagnosis of pyogenic granuloma includes peripheral giant cell granuloma, peripheral ossifying fibroma, haemangioma and metastatic carcinoma.[17]

Although the conventional treatment for pyogenic granuloma is surgical excision, a recurrence rate of 16% has been reported. [18] This is due to the fact that it is practically impossible to completely remove lesion with mere surgical excision. Hence there are also reports of the lesion being eliminated with electric scalpel or cryosurgery methods, cauterization with silver nitrate, sclerotherapy with sodium tetra decylsulfate and monoethanolamineoleate, ligation, absolute ethanol injection dye, Nd:YAG and CO2 laser, shave excision, and laser photocoagulation.[19,20]

In the present case, the lesion was surgically excised and was sent for histopathologic examination. The scaling and root planning of the adjacent teeth was completed to remove all the local irritants, which could have been the primary etiologic factor in the present case. Histological report was consistent with clinical diagnosis of pyogenic granuloma. However patient reported back with recurrence in the same site within three weeks. On careful history taking it was found that patient was using tooth pick attempting to remove the tissue to prevent its regrowth. Levy I *et al*. reported that incomplete excision, failure to remove etiologic factors or repeated trauma contributes to recurrence of these lesions.[21] In the present case, chronic irritation might have been a cause for the recurrence. At this point of time, since the lesion had spread lingually to in accessible region, extraction of 46 along with lesion excision using GaAlAs Diode Laser was planned. Tissue was sent for histological examination which showed as lobular capillary haemangioma- type of pyogenic granuloma. The lesion was then managed more radically with removal of additional 1centimeter healthy tissue around the lesion and extraction of 47. Patient was followed for one year and did not show any recurrence.

## CONCLUSION

Soft tissue enlargements of the oral cavity often present a diagnostic challenge because a diverse group of pathologic processes can produce such lesions. Careful history, clinical examination, investigations, optimal treatment planning and patient compliance is required for the successful management of these lesions.

## References


1. Jafarzadeh H, Sanatkhani M, Mohtasham N. Oral pyogenic granuloma: A review. *J Oral Sci* 2006; 48:167-75.
2. Mussalli NG, Hopps RM, Johnson NW. Oral pyogenic granuloma as a complication of pregnancy and the use of hormonal contraceptives. *Int J GynaecolObstet* 1976;14:187-91.
3. Epivatianos A, Antoniades D, Zaraboukas T, Zairi E, Poulopoulos A, Kiziridou A, etal. Pyogenic granuloma of the oral cavity: Comparative study of its clinicopathological and immune his to chemical features. PatholInt 2005; 55:391-7.
4. Ragezi JA, Sciubba JJ. Oral Pathology: Clinical Pathological Correlations. 5th ed. Gurgaon: Elsevier; 2009. p. 111-2.
5. 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.
6. Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and Maxillofacial Surgery. 2nd ed. Philadelphia: Saunders; 2002.p. 447-9.
7. Regezi JA, Sciubba JJ, Jordan RC. Oral Pathology: Clinical Pathological considerations. 4th ed. Philadelphia: WB Saunders; 2003. p. 115-6.
8. Mussalli NG, Hopps RM, Johnson NW. Oral pyogenic granuloma as a complication of pregnancy and the use of hormonal contraceptives. Int J GynaecolObstet 1976; 14:187-91.
9. Janier M. Infection and angiomatous cutaneous lesions. J Mal Vasc 1999; 24:135-8.
10. Bachmeyer C, Devergie A, Mansouri S, Dubertret L, Aractingi S. Pyogenic granuloma of the tongue in chronic graft versus host disease. Ann DermatolVenereol 1996; 123:552-4.
11. Akyol MU, Yalçiner EG, Doğan AI. Pyogenic granuloma (lobular capillary hemangioma) of the tongue. Int J PediatrOtorhinolaryngol 2001;58:239-41.
12. Ainamo J. The effect of habitual toothcleansing on the occurrence of periodontal disease and dental caries. SuomHammaslaakToim
1971; 67:63-70.
13. Sooriyamoorthy M, Gower DB. Hormonal inflences on gingival tissue: Relationship to periodontal disease. J ClinPeriodontol 1989; 16:201-8.
14. Bhaskar SN, Jacoway JR. Pyogenic granuloma – Clinical features, incidence, histology, and result of treatment: Report of 242 cases. J Oral Surg 1966; 24:391-8.
15. Requena L, Sangueza OP. Cutaneous vascular proliferation. Part II. Hyperplasias and benign neoplasm. J Am Acad Dermatol 1997; 37:887-919.
16. MacLeod RL, Soames J. Epilides: A clinicopathological study of 200 consecutive lesions. Br Dent J 1987; 163:51-3.
17. Greenberg MS, Glick M, Ship JA. In: Burkett's textbook of oral medicine. 11 th ed. USA: BC Becker Inc; 2008. p. 131-2.
18. Newman, Takei, Carranza. In: Textbook of Carranza's clinical periodontology, 10th ed. the Netherlands: Elsevier Publication, 2006, p:176-77
19. Ichimiya M, Yoshikawa K, Hamamoto Y, Muto M. Successful treatment of pyogenic granuloma with injection of absolute alcohol. J Dermatol 2001; 31:342-4.
20. Raulin C, Greve B, Hammes S. The combined continuous-wave/pulsed carbon dioxide laser for treatment of pyogenic granuloma. Arch Dermatol 2002; 138:33-7.
21. Levy I, Rolain JM, Lepidi H. Is pyogenic granuloma associated with Bartonella infection? *J Am AcadDermatol* 2005;53:1065-6.


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