International Journal Dental and Medical Sciences Research
Volume 5, Issue 4, July-Aug 2023 pp 115-118 www.ijdmsrjournal.com ISSN: 2582-6018

Recurrent Pyogenic Granuloma Due To Traumatic Deep Bite: A Case Report

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Date of Submission: 05-07-2023 Date of Acceptance: 15-07-2023

ABSTRACT

Introduction –A non neoplastic soft-tissue lesion occurring as a result of inflammatory reaction, mostly affects the gingiva and very rarely other sites of the oral cavity. Pyogenic granuloma occurs due to invasive stimuli of low-grade intensity, for e.g., chronic irritation from dental calculus and trauma. In addition, hormonal changes during pregnancy or puberty, and drugs such as cyclosporine could be the etiological factors of pyogenic granuloma. Surgical excision is the treatment of choice. Recurrence of lesion has been reported after surgery.

Objective- To report the case of pyogenic granuloma caused due to anterior deep bite.

Methodology- A 32-year-old female patient reported with the chief complaint of a soft tissue mass in mandibular front region that had recurred after two years. The lesion was pedunculated and painful. Traumatic deep bite was present at the site of lesion. History and clinical findings were suggestive of pyogenic granuloma. The lesion was excised and deep curettage after flap elevation was performed to prevent recurrence. Tissue was sent for biopsy.

Results- Uneventful and satisfactory postoperative healing was noticed. No recurrence was noticed at 6 months of follow up.

Conclusion- Constant irritation caused by traumatic bite can lead to recurrent pyogenic granuloma which is best treated by surgical excision and deep curettage.

KEY WORDS: Pyogenic granuloma, deep bite, curettage

I. INTRODUCTION.

First described by Hullihen in 1844 ,pyogenic granuloma is considered to be anon-neoplastic inflammatory hyperplastic enlargement occurring as a tissue reaction to trauma, irritation,hormonal disturbances[1,2]or certain kinds of drugs.[3]Earlier , pyogenic organisms and infections were thought to be the cause of pyogenic granulomabut now have been discarded as their aetiology. [1,4]It is usually slow growing, painless and shows no symptoms.[5]Seen as sessile or pedunculated growth, it may appear purple pink to red in colour. The most common site of occurrence is gingiva with majority of them seen in the maxilla andanterior areas being more commonly involved than posterior areas. Biopsy followed by histopathological evaluation is the mainstay of diagnosis.Surgical excision is the treatment of choice.[6] Recurrence of lesion with a rate of 15.8% has been reported after surgery.[7] This could be due to insufficient excision, non-elimination of etiologic factors, or re-injury of lesions, multiple deep satellite nodules encircling the site of original lesions (Warner–Wilson Jones syndrome).[8,9]This report presents the case of a 32-year-old female patient with recurrent pyogenic granuloma due to traumatic deep bite.

II. CASE REPORT

A 32-year-old female patient reported to the Department of Periodontics, PGIDS,Rohtak,Haryana, India, with the chief complaint of growth in oral cavity pertaining to lower anterior tooth region which was painful and interfered with normal eating and brushing. History revealed occurrence of similar lesion two years back which was surgically excised. The growth had beengradually increasing in size from past 3 months. No other relevant medical or family history was obtained.On intraoral examination, a single exophytic oval shaped lesion, 4 X 5 mm in size, attached to the marginal gingiva between lower right central incisor and canine was seen.the lesion presented asreddish in colour,pedunculatedwith smooth surface. Profuse bleeding on probing was also seen. Intraoral periapical radiograph showed no significant findings.Based on histological and clinical findings, the lesion was diagnosed as a recurrent pyogenic granuloma.Traumatic deep bite was found to be present at the site of lesion, constantly causing irritation to the marginal gingiva and thus was suspectedto be the cause of the lesion.

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III. TREATMENT

After completing phase 1 therapy, surgical excision of lesion followed by flap elevation and deep curettage was planned. The concerned area was anesthetized with a solution of 2% lignocaine having 1:200,000 adrenaline. The lesion was completelyexcised using BP blade no 15 from its base. A full-thickness flap was raised, extending from the mid-buccal aspect of central incisor to the mid-buccal aspect of the canine. This exposed the bony surface and deep curettage was performed. Flap was then sutured back using silk 3-0 suture. The excised lesion was sent for histopathological evaluation.The histopathological evaluation showed a hyperplastic para keratinized stratified squamous epithelium with supporting fibrovascular connective tissue ,consisting of many budding capillaries,plump fibroblast, and dense chronic inflammatory cell infiltrate. This confirmed the diagnosis of PG. The patient was recalled after1-week.An uneventful and satisfactory post-operative healing was reported and patient was sent for orthodontic treatment of occlusion with respect to anterior teeth. Further, follow up at 6 months revealed no recurrence of the lesion.

IV. DISCUSSION

Pyogenic granuloma is an inflammatory hyperplastic lesion accounting for1.85% of all oral pathologies, other than caries and gingivitis.[10]According to Vilmann et al, the majority of the pyogenic granulomas are found on the marginal gingiva with only 15% of the tumours on the alveolar part.[11] Buccal mucosa, tongue and lips are the other sites commonly affected.[4,12],[13]It may lead to interference with mastication, swallowing, phonetics and aesthetics.Factors responsible for its rapid growth can bevascular endothelial growth factor (VEGF),[14]inducible nitric oxide synthase[15], basic fibroblast growth factor[16], and connective tissue growth factor.[17] Recurrence of pyogenic granuloma after excision is a commoncomplication accounting for 16% of the treated lesions, therefore, re-excision of such lesions become necessary.[18] This paper presentsa case report of successful management ofrecurrent PG case caused due to traumatic deep bite. The gingival lesion here had a history of occurring twice within 2 and half years in the same area. The recurrence of the lesion here could be attributed to deep bite of incisors which caused constant trauma to the soft tissue.Although the conventional treatment involvescomplete surgical excision of the outgrowthwith the removal of irritants, treatment modalities such as Nd: Yttrium-aluminium-garnet lasers, carbon dioxide lasers, flash lamp, pulse dye laser, cryosurgery, sodium tetradecyl sulphate sclerotherapy,[8] and use of intralesional steroids have also been proposed.In this case, conventional scalpel method was chosen over the other mentioned techniques.Complete exposure of bone surface by raising full thickness flap was achieved followed by deep curettage. Correction of alignment of teeth in anterior region was necessary in this case to prevent further recurrence. No recurrence of the lesion was reported till 6 months after the surgery. This highlights the purpose of deep curettage in thorough removal of lesion and prevention of its recurrence.

V. CONCLUSION

Pyogenic granuloma is a reactive lesion occurring due to low grade chronic irritation or trauma and tends to recur occasionally after surgical excision resulting from incomplete excision, failure to remove etiologic factors, or repeated traumato the area.Appropriate management pertaining to its diagnosis, treatment, and further prevention is extremely imperative.

Fig 1 Preoperative pictures(A) Buccal view, (B)and (C) Dimensions of the lesion-5X9 mm (D)Palatal view of upper incisors

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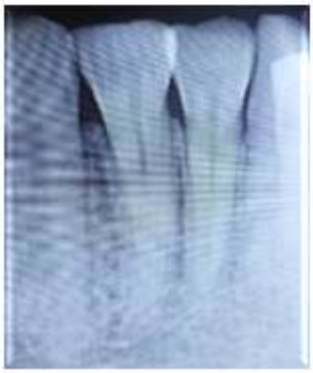

Fig 2 Radiograph of the site of the lesion

Fig 3 (A) Intraoperative picture- reflected flap (B) Excised tissue

Fig 4 One week follow up

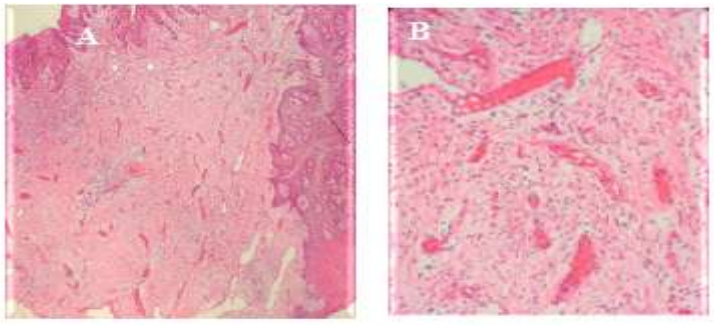

Fig 5 Histological presentation (A) 10X presentation (B) 40 X presentation

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