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PYOGENIC GRANULOMA : A CASE REPORT OF A COMMON LESION AT AN UNCOMMON SITE

Sowmya Medapati[1], Sridevi Koduri[2], Krishnaveni Buduru[3], Prasanth Kumar Nalli[4], Supriya Yajjavarapu[5]

[1]Post Graduate, Department of Oral Medicine and Radiology, Lenora Institute of Dental Sciences, Rajahmundry, Andhra Pradesh, India,

[2]Professor &Head, Department of Oral Medicine and Radiology, Lenora Institute of Dental Sciences, Rajahmundry, Andhra Pradesh, India,

[3]Reader, Department of Oral Medicine and Radiology, Lenora Institute of Dental Sciences, Rajahmundry, Andhra Pradesh, India,

[4]Senior lecturer, Department of Oral Medicine and Radiology, Lenora Institute of Dental Sciences, Rajahmundry, Andhra Pradesh, India

[5]Post Graduate, Department of Oral Medicine and Radiology, Lenora Institute of Dental Sciences, Rajahmundry, Andhra Pradesh, India,

Address for correspondence:

Dr. Sridevi Koduri , Professor and Head ,
Department of Oral Medicine and Radiology,
Lenora Institute of Dental Sciences,
Rajahmundry,
East Godavari, Andhra Pradesh
533294,

Abstract : Pyogenic Granuloma (PG) is a hemorrhagic nodular formation that typically appears on the gingiva and has a high recurrence rate following excision, if the associated irritant is not removed. It is a kind of inflammatory hyperplasia.This case report was focused on a case of pyogenic granuloma involving interdental papilla between 15 & 16 on the buccal aspect in a 18 year old male patient with possible differential diagnosis and treatment.

Key Words : Benign lesion, Gingiva, Pyogenic granuloma

INTRODUCTION

Pyogenic granuloma (PG) is a benign lesion of vascular origin.[1] Pyogenic granuloma has been referred to by a variety of synonyms such as granuloma pediculatum benignum, benign vascular tumor, pregnancy tumor, vascular epulis, Crocker and Hartzell's disease. However, Hartzell coined the word "pyogenic granuloma" in 1904, which has since been widely employed in the literature, despite the fact that it does not precisely reflect the clinical or histopathologic aspects.[2] It is also known as eruptive haemangioma, granulation tissue-type haemangioma, granuloma gravidarum, lobular capillary haemangioma.[3-5] Their friable, hemorrhagic, and frequently ulcerated appearance correlates with their histologic structure.[6]

This work reports on a clinical observation diagnosed and treated in the Department of Oral Medicine & Radiology, Lenora Institute of Dental Sciences, Rajanagaram. For this clinical observation, histology validated the diagnosis of pyogenic granuloma, with a focus on clinical and histological aspects as well as therapeutic options.

CASE REPORT

A male patient of 18 years age with no medical history reported to the Department of Oral Medicine & Radiology out patient ward with a chief complaint of bleeding from the gums in the right upper back tooth region since 2 months. On eliciting the history, patient gave history of growth on the right upper back tooth region since 2 months which started as small in size and gradually increased in size with no history of pain and other associated symptoms except for bleeding from the growth upon application of pressure. (Figure 1)

On general examination, patient was moderately built, moderately nourished with well coordinated gait, erect posture and normal vital parameters. On intraoral examination, there was a solitary growth seen on the interdental papilla between 15 & 16 on the buccal side measuring about 2x2 cm in size, roughly oval in shape, reddish pink in colour with no surface ulcerations associated with bleeding upon slight provocation. On palpation, it was non tender, soft to firm in consistency, non compressible, non reducible, non pulsatile and sessile with smooth surface. Based on the history and findings of examination, a provisional diagnosis of Pyogenic granuloma irt interdental papilla of 15 & 16 was given. Differential diagnoses of irritational fibroma, peripheral giant cell granuloma, peripheral ossifying fibroma and angiomatous lesions were considered.

Figure 1 : Intra oral view of the lesion

Investigations included IOPAR irt 15&16, routine blood investigations & tru-cut biopsy. IOPAR revealed normal interdental bone irt 15 & 16. However, an ill defined radiolucency involving enamel, dentin and pulp irt 15 is seen (Figure 2). All the hematological parameters are within normal range with good glycemic control. Histopathology report for the sample obtained via tru cut biopsy revealed parakeratinized stratified squamous epithelium of varying thickness and underlying connective tissue which is fibrocellular in nature showing high vascularity with numerous dilated blood vessels, budding capillaries and dense inflammatory cell infiltrate predominantly of lymphocytes and extravasated RBCs. (Figure 3)

Figure 2: IOPAR irt 15,16

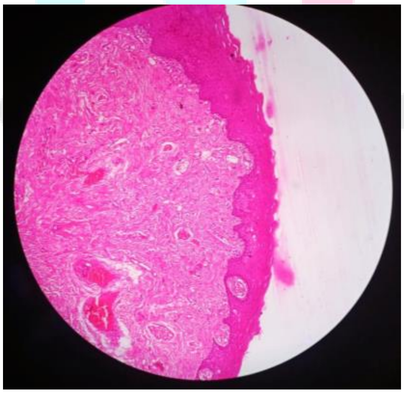

Figure 3: Photomicrograph revealing the histopathology of the lesion

By correlating the clinical & radiological features with histopathological features a final diagnosis of pyogenic granuloma involving the gingiva of right maxillary posterior region was arrived at.

After histopathological confirmation, the management of the lesion was initiated by intralesional administration of triamcinolone acetonide 4mg/day for 3 consecutive days. Reduction in the size of the growth was observed as well as bleeding was visibly reduced. Later, surgical excision was performed along with curettage.(Figure 4)

Figure 4 : Excised tissue

DISCUSSION

Pyogenic granuloma (PG) is a non neoplastic, inflammatory hyperplasia which shows nodular growth involving the oral mucosa that histologically resembles inflamed fibrous granulation tissues. The lesion does not contain pus and strictly speaking it is not pyogenic, hence the term pyogenic granuloma is considered as a misnomer.[6]

Sequence of events in the formation of pyogenic granuloma:

Chronic low grade irritants or injuries like calculus, fractured tooth & iatrogenic factors such as overextended flanges of dentures, overhanging dental restorations

⬇

Induce inflammation

⬇

Exuberant proliferation of regional connective tissue.

⬇

Leading to granulation tissue formation with endothelial cells & chronic inflammatory cells.

⬇

Proliferation of fibroblasts.

⬇

Reactive hyperplasia manifesting as growth.

Usually, PG can affect the gingiva of any age group but is more common in the second and third decades of life. Females are slightly more affected than males. The development of a gingival PG may also be related to hormonal changes (puberty, menstruation or pregnancy).[7] Pyogenic granuloma has been associated with certain medications such as oral contraceptives, retinoids, gefitinib, capecitabine, and afatinib.[6] Gingiva (mostly maxillary & mandibular anterior regions) was the predominant site followed by lips, tongue, buccal mucosa, and hard plate. Other sites include the cheeks, lips, tongue, palate, mucobuccal fold, and frenum. Clinically, it may manifest as a sessile lesion or a raised mass. Pyogenic granulomas tend to be soft, painless, and exhibit a deep crimson to reddish-purple colour.[2]

Radiologically, findings are not seen usually. However, substantial and long standing gingival tumors may occasionally indicate signs of localised alveolar bone resorption.[2]

Pyogenic granuloma is partially or totally covered by parakeratotic or non-keratinized stratified squamous epithelium histologically. The greater part of the lesion is composed of lobulated or non-lobulated mass of angiomatous tissue. Lobulated lesions are typically made up of solid endothelial growth or the proliferation of capillary-sized blood vessels. Collagen is typically scarce in the connective tissue of pyogenic granuloma.Surface can be ulcerated and in such ulcerated lesions, edema was a prominent feature and the lesion is infiltrated by plasma cells, lymphocytes and neutrophils.[2]

Treatment includes surgical excision. Excision to the depth of the periosteum or the causative agent, with 2 mm margins around the clinical periphery is recommended. As part of the excision, any foreign body, calculus, or faulty restoration should be removed. Several other treatments may be considered: diode or CO2 laser resection, nitrogen cryosurgery, intralesional injection of corticosteroids or sclerosing agents.[7-10] However, use of sclerosing agent can result in tissue necrosis and sloughing.

Recurrence is usually high in case of Pyogenic Granuloma. Bhaskar and Jacoway observed a 15.8% recurrence rate following conservative excision. According to Vilmann et al., lesions from the gingival region recur far more frequently than lesions from other oral mucosal regions. A thorough curettage of underlying tissue, after surgical excision reduces the rate of recurrence to a considerable extent. Pyogenic granuloma lacks infiltrative or malignant potential. According to Sapp et al., the recurrence rate of oral pyogenic granulomas following simple excision is relatively high.[2]

In this case, the patient after the diagnosis, received initial therapy with intralesional steroids followed by surgical excision and curettage. No recurrence was noted during the follow up sessions for a period of 3 months.(Figure 5)

Figure 5 : Follow up

CONCLUSION

Pyogenic granuloma is the most common, benign and self-limiting entity, diagnosed based on clinical and pathological examination. Complete modality of treatment including surgical excision along with curettage can prevent the recurrence of the lesion. Meticulous oral hygiene should be instituted. Soft tissue growths and lesions should be diagnosed clinically and histopathologically to arrive at a definitive diagnosis.

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