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Pyogenic granuloma of palatine papilla – A unique case

Spoorthi Rai[1], Shreelakshmi[2], Kshma Rao[3], Tanmayi H[4], Dhanya S Rao[5], Raghavendra Kini[6]

[1] Intern, Oral Medicine & Radiology, A.J Institute of Dental Sciences, Kuntikana, Mangaluru, Karnataka, India

[2] Intern, Oral Medicine and Radiology, A.J Institute of Dental Sciences, Kuntikana, Mangaluru, Karnataka, India

[3] Post Graduate Student, Oral Medicine & Radiology, A.J Institute of Dental Sciences, Kuntikana, Mangaluru, Karnataka, India

[4] Intern, Oral Medicine & Radiology, A.J Institute of Dental Sciences, Kuntikana, Mangaluru, Karnataka, India

[5] Assistant Professor, Oral Medicine and Radiology, A.J Institute of Dental Sciences, Kuntikana, Mangaluru, Karnataka, India

[6] Professor and Head, Oral Medicine & Radiology, A.J Institute of Dental Sciences, Kuntikana, Mangaluru, Karnataka, India

Abstract
Pyogenic granuloma is a commonly acquired, benign, vascular tumor that arises in the skin and mucous membranes. It is one of the inflammatory hyperplasias that results from some minor trauma to the tissues which provides a pathway for the invasion of non-specific types of microorganisms. It might be related to hormonal changes. Histopathological findings show prominent capillary growth in hyperplastic granulation tissue suggesting a strong activity of angiogenesis. Treatment modalities include observation and surgical excision.

Keywords: pyogenic granuloma, ulcerative, benign, palate

Introduction

Soft tissue enlargements are quite questioning. It's going to be a developmental defect, normal adaptation, infectious, or cancerous. Pyogenic granuloma could be a benign, non-neoplastic, mucocutaneous lesion. [1] It's thought to represent an exuberant tissue response to local irritation or trauma [2]. Hullihen reported the primary case of pyogenic granuloma in 1884 [1]. Pathogenesis is unclear but trauma, infection, and hormonal imbalance are attributed as reasons for the occurrence. 75% of all cases arise on the gingiva but may occur on lips, tongue, and buccal mucosa [3]. The prevalence is more in females than in males, thanks to the vascular effects of female hormones [4]. Here we present a case of pyogenic granuloma in a 39-year-old female.

Case Report

A 39-year woman reported to the dental OPD with the chief complaint of growth and pain in the upper front region for one month. The patient noticed a pea-sized growth initially which gradually increased to the current size with associated pain that was sudden in onset, continuous, pricking type, mild in intensity, non-radiating, aggravating on having food, and relieving on its own. She also gave a history of difficulty in speech. There was trauma or bleeding history given by the patient. The patient was medically fit. No extraoral changes were appreciated. The presence of calculus and stains were evident intraorally. A solitary ulcerative mass with a pedunculated base, corrugated surface measuring approximately 3X3 cm in size within the anterior palate extending from the palatal surface of 11,21 up to the anterior border of rugae anteroposteriorly involving the palatine papilla. Mass was bright red. It had been non-tender, mobile, soft in consistency, bled spontaneously, non-fluctuant, non-pulsatile, and non-compressible. [Figure 1, 2] Supported history and clinical findings, a provisional diagnosis of pyogenic granuloma of the palatine papilla was given. Differential diagnoses included peripheral ossifying fibroma and peripheral giant cell granuloma.

The patient was advised for an Intraoral periapical radiograph (IOPA) at about 11 and 21. Radiographic assessment with relevancy 11 and 21 revealed horizontal bone loss to the root's center thirds, suggesting localized periodontitis. [Figure 3] The mass was surgically excised under anesthesia and sent for histopathological examination. The hematoxylin and Eosin stained section showed a para keratinized squamous epithelium. The underlying animal tissue showed numerous endothelium-lined vascular spaces, proliferating fibroblasts, and budding endothelial cells. An infiltrate of chronic inflammatory cells was seen. [Figure 4] An ultimate diagnosis of pyogenic granuloma of palatine papilla according to the clinical findings.

Fig 1: Ulcerative mass in the anterior palate

Fig 2: Extension of ulcerative mass

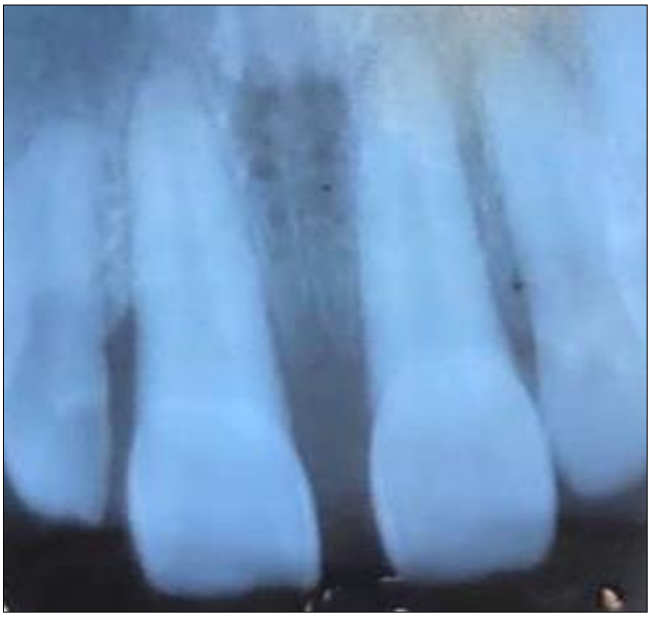

Fig 3: IOPA irt 11,12,21,22 reveals horizontal bone loss

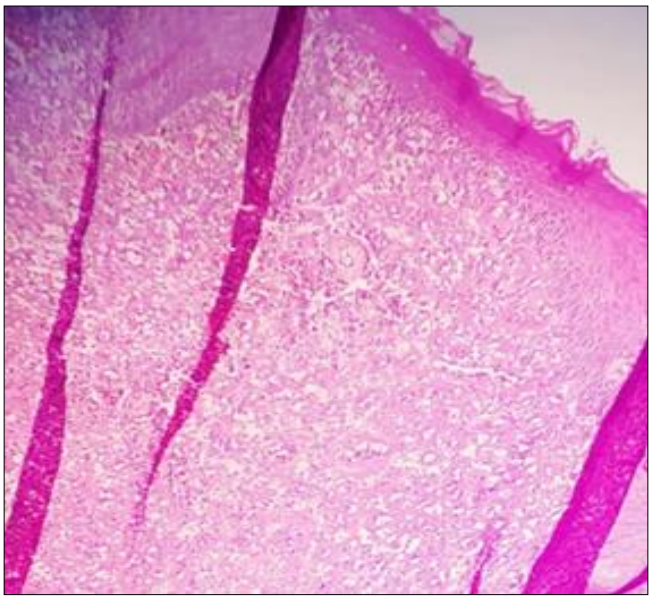

Fig 4: H & E section reveals para keratinized squamous epithelium with numerous endothelium-lined vascular spaces, proliferating fibroblasts and budding endothelial cells

Discussion

The pyogenic granuloma could be a common tumorlike growth of the oral fissure that is traditionally considered non-neoplastic.

It was originally thought to be caused by pyogenic organisms, but it's believed to be unrelated to infection. Instead, the pyogenic granuloma is believed to represent an exuberant tissue response to local irritation or trauma. [4] In our case, the patient did not report any history of trauma.

Pyogenic granuloma has been referred to by a spread of other names like granuloma pediculate benignum, benign vascular tumor, pregnancy tumor, vascular epulis, and Crocker and Hartzell's disease. It had been given its present name by Crocker in 1903.

However, some researchers believe that Hartzell 1904 introduced the term "pyogenic granuloma" that's widely utilized in the literature. "Hemangiomatous granuloma," a term proposed by Angelopoulos AP accurately expresses the inflammatory nature (granuloma) of oral pyogenic granuloma and the histopathological picture (hemangioma-like). Cawson *et al*. suggested that, since the blood vessels are so numerous in oral pyogenic granuloma alternative term for the pyogenic granuloma is granuloma telangiectacticum [5].

Clinical features present as a smooth or lobulated mass that's usually pedunculated, although some lesions are sessile. The surface is characteristically ulcerated and ranges from pink to red to purple, betting on the age of the lesion. Young pyogenic granulomas are highly vascular in appearance; older lesions tend to become more collagenized and pink. Typically, the mass is painless, although it often bleeds easily due to its extreme vascularity. May exhibit ascension [6]. Our case presented as a painful ulcerative red mass with a pedunculated base that bled spontaneously.

Oral pyogenic granuloma has a striking predilection for the gingiva. Lesions are slightly more common in the maxillary gingiva than in the mandibular gingiva; the anterior area is more commonly affected than the posterior areas. These lesions are way more common in the facial aspect of the gingiva than in the lingual aspect. The lips, tongue, and buccal mucosa are the following common site. A history of trauma before the event of the lesion isn't unusual, especially for extra-gingival pyogenic granuloma. Most typical in children and young adults. Definite female predilection [7]. In our case, a 39-year-old female patient was affected with pyogenic granuloma of the palatine papilla.

Pyogenic granulomas of the gingiva frequently develop in pregnant women, so the terms pregnancy tumor or granuloma gravidarum often are used. Epulis granulomatosa could be a term wont to describe hyperplastic growths of connective tissue that sometimes occur in a very healing extraction socket. These lesions resemble pyogenic granulomas and frequently represent a connective tissue reaction to bony sequestra within the socket [8].

Patients with pyogenic granuloma treatment consist of conservative surgical excision, typically curative. For gingival lesions, excision should extend down to the periosteum and adjacent teeth should be thoroughly scaled to get rid of any source of constant irritation. [9] The lesion can be treated non-surgically by suture ligation, cryotherapy, pulsed dye laser or CO2 laser, sclerotherapy, or electrocautery. Steroid injections have also been used (e.g., Triamcinolone acetonide) particularly in recurrent cases after failed surgical methods [1]. A recurrence rate of 3 - 15% has been reported in most studies. For lesions that develop during pregnancy, usually treatment should be deferred unless significant functional or aesthetic problems develop. The recurrence rate is higher for pyogenic granulomas removed during pregnancy, and some lesions will resolve spontaneously after parturition. [9, 10] In our case, the lesion was excised using a conventional surgical procedure.

Conclusion

Pyogenic granuloma has no malignant potential. Since they do not regress spontaneously and may bleed, ulcerate, or be cosmetically disfiguring and psychologically distressing, treatment becomes necessary. complete primary excision is preferred to avoid recurrence. Clinical resemblance to other inflammatory tumors and some oral cavity neoplasms necessitates an appropriate microscopic examination of biopsy specimens before the final diagnosis is made and appropriate treatment is instituted.

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