ORIGINAL RESEARCH PAPER
Volume - 9 | Issue - 7 | July - 2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

AN UNUSUAL PRESENTATION OF EXTRAGINGIVAL PYOGENIC GRANULOMA

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ABSTRACT

Pyogenic granuloma is a non-neoplastic vascular proliferation of the skin and oral cavity in response to local irritation or trauma. It shows a striking predilection for the gingiva (75%) but can occur extra-gingivally on the lips, tongue, buccal mucosa and palate. This case report describes an uncommon location of pyogenic granuloma occurring on the upper lip. Such a situation presents with a diagnostic dilemma as it mimics other conditions such as minor salivary gland tumours, mesenchymal tumours and other infectious lesions. The purpose of this article is to report an uncommon location of pyogenic granuloma and discuss the features that distinguish it from other similar oral mucosal lesions.

KEYWORDS

Pyogenic Granuloma, Extra-gingival

INTRODUCTION

Pyogenic granuloma is a benign, soft tissue, non-neoplastic lesion of the oral cavity occurring in response to chronic local irritation, trauma and hormonal changes[1]. The term pyogenic granuloma is a misnomer as it does not produce pus, nor does it show granulomatous changes microscopically. It is also called as telangiectatic granuloma, Crocker and Hartzell's disease, haemangiomatous granuloma, vascular epulis and vascular tumour. The term pregnancy tumour is also used when it occurs in pregnant women[2].

Clinically, pyogenic granuloma usually presents as a solitary exophytic growth which may be sessile or pedunculated, with a smooth or lobulated surface which may be ulcerated. The lesion may vary from red to pink in colour depending on the maturity of the lesion. The most common intra-oral site is the gingiva, especially the maxillary anterior region.

This article reports a case of pyogenic granuloma occurring on the upper lip, which creates a diagnostic dilemma because of its unusual location.

CASE REPORT

A 11-year-old male patient presented with the chief complaint of swelling on the front upper lip region for the past one month. History of presenting illness revealed that the growth was gradual in onset, initially small in size and now increased to attain the present size. The swelling was not associated with pain. There was history of trauma by teeth bite. There was no history of similar lesion.

Clinical examination revealed a solitary exophytic pedunculated pinkish white growth on the left side of upper lip. The growth measured 2.5 * 2 cm and was soft to firm in consistency. It was non tender and not fixed to underlying tissue. Regional lymph nodes were not palpable. On the basis of history and clinical examination, a provisional diagnosis of benign exophytic growth of upper lip was considered. The lesion was then excised under local anaesthesia and sent for histopathological examination.

The histopathological examination revealed stratified squamous epithelium with hyperkeratosis. Numerous endothelium lined blood vessels and budding capillaries were noted. The connective tissue stroma showed marked inflammation consisting of neutrophils, plasma cells and lymphocytes. Based on these histopathological findings, the diagnosis of pyogenic granuloma was confirmed.

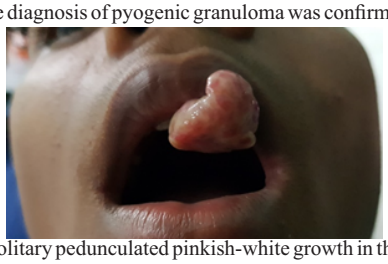

Figure 1: Solitary pedunculated pinkish-white growth in the upper lip

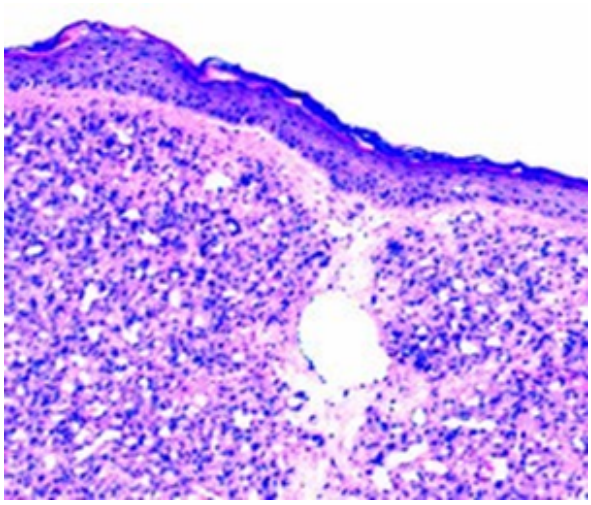

Figure 2: Histopathological photomicrograph showing features of pyogenic granuloma (H & E, 100*)

DISCUSSION

Occurrence of pyogenic granuloma in man was first described in 1897 by Poncet and Dor. At that time it was called botryomycosis hominis. It was given its present name by Crocker in 1903[3]. Some researchers believe that Hartzell in 1904 introduced the term "pyogenic granuloma" that is widely used in literature, even though it does not accurately express its clinical or histopathological features[4].

Angelopoulos AP proposed the term 'hemangiomatous granuloma" that accurately expresses the histopathological picture (hemangioma like) and the inflammatory nature (granuloma) of oral pyogenic granuloma[4]. Cawson et al. suggested that since the blood vessels are so numerous in pyogenic granuloma, alternative term can be granuloma telangiectacticum[5].

Some authors regard pyogenic granuloma as an "infectious entity". Minor trauma to the tissues provide a pathway for invasion of nonspecific microorganisms. The tissue responds with overzealous proliferation of a vascular type of connective tissue[6]. Some consider it as a reactive or reparative tumour process where there is exuberant connective tissue proliferation to a known stimulus or injury like calculus or foreign material within the gingival crevice[7].

Yung et al., suggested hormonal influence on the basis of the observation that pregnancy tumour that occurs in pregnant women also arises from the gingiva and has the same microscopic features[8]. Regezi et al. stated that oral pyogenic granuloma shows histopathological findings of prominent capillary growth in hyperplastic granulation

tissue suggesting a strong activity of angiogenesis[7]. Kelley and Bernard regard pyogenic granuloma as a "Benign, Acquired, Vascular, Neoplasm"[9]. Davies et al., found inclusion bodies in the fibroblasts suggestive of disordered protein metabolism[10].

Pyogenic granuloma occurs at any age and in all populations with no racial predilection. Population studies have determined a prevalence rate of 1 lesion per 25,000 adults[11,12,13,14]. Lawoyin et al (1997) reported an average range of 5 to 78.5 years (mean age 33 years)[15]. Female to male ratio of 2:1 is seen which is attributed to the vascular effect of female hormones that occur in woman during puberty, pregnancy and menopause. Prevalence of pyogenic granuloma in pregnant women is about 5% [16].

Pyogenic granulomas may occur anywhere in the body surface and excepting the oral cavity, they are common among the finger and toes[17]. In the oral cavity, interdental papillae is the most common site (70%) and are more common in the maxillary anterior area. Gingival irritation and inflammation resulting from poor oral hygiene, dental plaque and calculus or overhanging restorations may be the precipitating factors in majority cases[11.14].

In a 15-year retrospective study of benign lip lesions conducted by Arslan et al., only 10% of the lesions were located on the upper lip. Therefore upper lip is a relatively uncommon location[18]. Such atypical presentation, as in this case, present a diagnostic challenge. The differential diagnosis can be minor salivary gland tumours, peripheral giant cell granuloma, peripheral ossifying fibroma, kaposi's sarcoma, bacillary angiomatosis, angiosarcoma, non-Hodgkin's lymphoma, seborrheic keratosis and metastatic tumours.

Clinically, pyogenic granuloma appears red/pink to purple, smooth or lobulated and may be pedunculated or sessile. Younger lesions are more likely to be red because of high number of blood vessels. Older lesions begin to change into pink colour. It can grow upto several centimeters in size but generally less than 2.5cm[19]. Radiographs are advised to rule out bony destruction suggestive of malignancy or to identify a foreign body.

Histopathologically, a parakeratotic or non-keratinized stratified squamous epithelium overlying the connective tissue stroma is seen. Chief bulk is formed by a lobulated or a non-lobulated bundle of angiomatous tissue. The lesion is infilterated by lymphocytes, plasma cells and neutrophils.

Management of pyogenic granuloma is conservative surgical excision after thorough oral prophylaxis. Cryosurgery, electrocautery, radiosurgery and laser can be used. Parisi et al., used a series of intralesional corticosteroid injections for the treatment of recurrent pyogenic granuloma[20]. Rate of recurrence is upto 16% [21] but is uncommon in case of extra-gingival pyogenic granuloma.

CONCLUSION

Pyogenic granuloma is a common lesion of oral cavity with predilection for gingiva. However uncommon sites such as lips, palate, tongue and buccal mucosa can also be affected leading to diagnostic dilemma. So surgeons should be aware of these presentations and their proper management.

CONFLICT OF INTEREST

The author has no conflict of interest to declare.

CONSENT

Informed consent was obtained from the patient regarding use of clinical, histopathological data and photograph for academic or publication purposes.

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