PYOGENIC GRANULOMA IN 87 YEAR OLD FEMALE PATIENT – A RARE CASE

A Case Report

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ABSTRACT

The oral pyogenic granuloma is an exuberant tissue response to local irritation or trauma, commonly involving the gingiva of maxillary anterior region. It occurs predominately in the 2nd decade of life in young females. Clinically these lesions are usually present as single sessile or pedunculated mass with smooth or lobulated surface ranging from a few millimetres to several centimetres in size. Presented here is a rare case of an 87 year old female patient having pyogenic granuloma on the crest of lower residual alveolar ridge.

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INTRODUCTION:

The pyogenic granuloma (PG) (also known as "Granuloma gravidarum") is a relatively common, tumour like, exuberant tissue response to localized irritation or trauma [(1)].

Pyogenic granuloma was originally described in 1897 by two French surgeons, Poncet and Dor, who named this lesion "Otyomycosis Hominis". It was initially considered to be a botryomycotic infection, an infection in horses thought to be transmissible to humans. The term "Pyogenic Granuloma" or "Granuloma Pyogenicum" was first coined by Hartzell in 1904 [(1)]. The name pyogenic granuloma was applied based on an identical lesion found on the skin, thought to be caused by pyogenic organisms [(2)]. It is actually a misnomer since the condition is not associated with pus and does not represent a granuloma histologically [(1)]. The actual cause of pyogenic granuloma is unknown but many etiological agents have been proposed-like hormonal imbalance, chronic trauma etc.

Pyogenic granuloma predominantly occurs in second decade of life and is more common in females than males due to vascular effects of female hormones. No racial predilection has been observed. It shows a striking predilection for the gingiva. Extragingivally, it can be seen in areas of frequent trauma such as the lower lip [(3,4,5)], tongue [(6)] and palate [(5,7,8)]. Similar lesion on palate is known as "lobular capillary hemangioma" [(8,9)]. A case has also been reported extraorally - in nasal cavity following nasal packing [(10)].

Clinically, oral pyogenic granuloma is a smooth or lobulated, exophytic growth; presenting as small erythematous papules on a pedunculated (or less commonly sessile) base and usually haemorrhagic. The surface may be deep red or reddish purple depending upon its vascularity. Young PGs are highly vascular as they are predominantly composed of hyperplastic granulation tissue with prominent capillary network. Some lesions have a brown cast if haemorrhage has occurred in the tissue. The surface may show ulceration which may be covered by yellow-white fibrinous pseudomembrane[(1)]. If left untreated for a long period of time, the lesion may undergo fibrosis due to decreased vascularity and becomes small, firm with little bleeding tendency. This lesion is called "Fibro-epithelial Polyp"[(11)]. There are no radiographic findings in case of Pyogenic Granuloma.

Two lesions which clinically appear similar to Pyogenic Granuloma are Peripheral Giant Cell Granuloma and Peripheral Ossifying Fibroma. Only histological evaluation can reveal the true

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lesion, especially when it is found on gingiva.

Histologically, Pyogenic Granuloma comprises of proliferating endothelial cells, much of which is canalized into a rich vascular network with minimal collagenous support. Polymorphs as well as chronic inflammatory cells often infiltrate throughout the oedematous stroma, with microabscess formation[12].

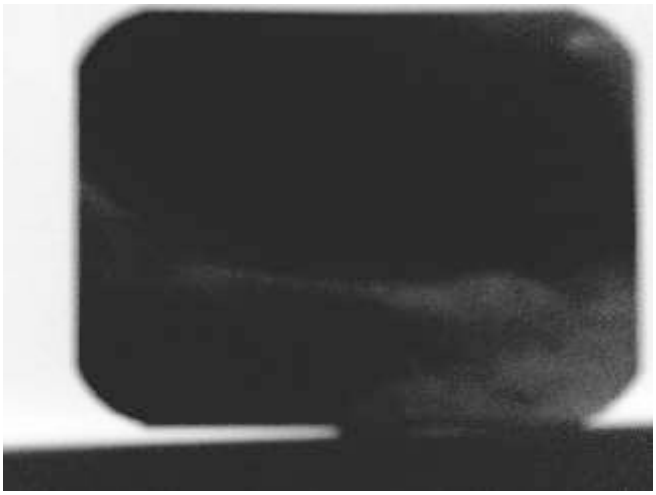
An identical lesion with same histological features occurs in association with florid gingivitis and periodontitis. In such cases, it is referred to as "Pregnancy Epulis" or "Pregnancy Tumour" [12]. These lesions show increased prevalence towards the end of pregnancy, and characteristically, shrink following delivery. Lesion does not occur if proper oral hygiene is maintained, indicating that a local cause is also important in formation of the lesion.

Preferred treatment for most of the Pyogenic Granulomas is removal of etiological agent and surgical excision. Other recent treatment modalities tried in recent times includes use of LASERs or Cryosurgical excision and intralesional injection of sclerosing agents [1]. The lesion has a significant potential to recur. Recurrence is most commonly due to incomplete excision, failure to remove irritant or re-injury [13] and thus long term follow up is necessary.

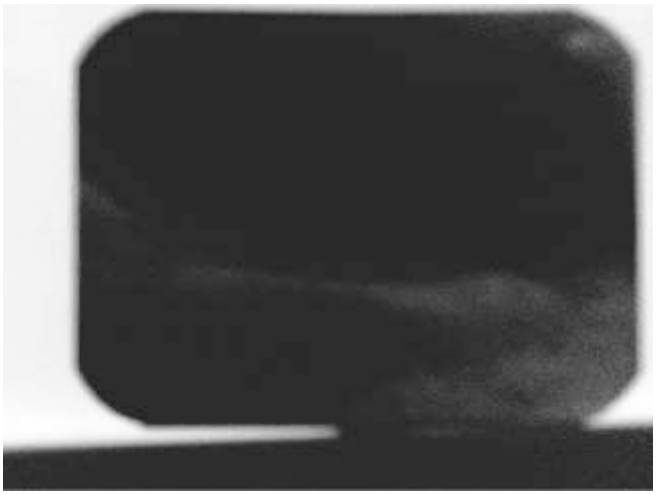
CASE REPORT:

A 87 year old female patient presented with a growth on the lower left posterior edentulous region since 15 days. The growth was of negligible size when she first noticed it, but then it rapidly grew to attain the current size. Patient did not recall any history of trauma to the region in the near past. No significant medical and family history was given by the patient. Patient had undergone extraction of teeth under local anaesthesia with last tooth extracted about 1 year ago without any complication.

On intraoral examination; 13, 14, 15, 22, 23, 24, 25 were the teeth present. An exophytic, pedunculated growth was present on the lower left edentulous ridge measuring 4 cm X 1 cm in size, extending from 33 upto 37 region anteroposteriorly and from the crest of the alveolar ridge to the depth of lingual as well as buccal vestibules supero - inferiorly (figure - 1).



The surface was irregular, lobulated and showing interspersed ulcerated and normal appearing areas. On palpation, it was soft in consistency, rough, non-tender and easily bled on touch and manipulation. IOPA of the region revealed no bony changes (figure - 2).



From the above clinical findings, a provisional diagnosis of 'Pyogenic Granuloma' was made with 'Peripheral Giant cell Granuloma' kept as possible differential diagnosis. Also, considering such an age of the patient, and the rapidity of the growth, carcinoma was also considered as one of the

differential diagnosis and hence, excision with a wide margin was done and tissue was submitted for histopathology.

Histopathological evaluation showed connective tissue consisting of vast number of endothelium lined vascular spaces filled with RBCs, extravasated RBCs, collagen fibre bundles, fibroblasts and intense infiltration of lymphocytes and plasma cells. The histopathology confirmed the diagnosis of Pyogenic Granuloma (figure-3 and 4). On follow up after 7 days, absolutely uneventful healing was observed.

Since Pyogenic Granuloma has a reportedly high recurrence rate, the patient is still under follow up. 3 months follow-up photograph shows no signs of recurrence. (figure - 5)

DISCUSSION:

Pyogenic Granuloma (PG) in oral cavity is a reactive lesion of the mucosa in response to local irritant or infection of a low virulence which may act as irritant. It should be emphasized that, certain infective organisms have been identified in causation of other vascular lesions-like B. Henselaea (Peliosis Hepatis), B. Quintana (Bacillary Angiomatosis) and HHV8 (Kaposi's Sarcoma and Angiolymphoid Hyperplasia) [(1)] but no such association has been seen in case of Pyogenic Granuloma. In this case, oral hygiene of the patient appeared to be good. Thus, it appears to be a case of unknown origin.

The growth is typically seen in young adults, although it may occur at any age. This is due to hormonal changes occurring during puberty which causes exuberant response to a local irritant of small intensity. A case of Pyogenic Granuloma has been reported in as early as an 8 week old infant [(6)] but no case has been found in literature in such an old age as was in this case. For that same reason, wide excision was done keeping in mind differential diagnosis of squamous cell carcinoma.

PG has a positive female predilection (about 1:1.5) as in the present case. Females are far more susceptible than males because of the hormonal changes that occur in women during puberty, pregnancy and menopause.

The disease can occur at any site. Most common site of occurrence though, is gingiva (around 75% of cases) [12] especially close to gingival margin, suggesting that plaque and calculus, food debris and overhanging margins of the restorations are important irritants that may have a role in development of the lesion, other sites being lips [3], tongue [6], buccal mucosa [5,7,10]. Lesions are more common on facial than lingual surface and can occur involving both the sides including interdental papilla [9]. In this case, lesion appeared on the residual alveolar ridge and extended on both the surfaces of the ridge.

Clinically, the lesion appears as small, pedunculated or sessile, painless, soft with smooth, lobulated or warty surface which is highly friable. Generally lesion grows slowly and reaches its peak by few weeks to months and then remains the same thereafter indefinitely [1]. Some PGs may grow rapidly also. Lesions often ulcerate and bleed profusely even without provocation. PG in present case also had a characteristic appearance in accordance with the literature.

Lesion closely identical to pyogenic granuloma is Peripheral Giant Cell Granuloma and Peripheral Ossifying Fibroma when they occur on the gingiva [12]. If 100 biopsies of pyogenic granuloma appearing lesions of the gingiva are submitted for histologic examination, approximately 85% will be pyogenic granulomas, 10% will be peripheral ossifying fibromas, and 5% will be peripheral giant cell granulomas [14]. Peripheral Ossifying Fibroma is a reactive lesion that occurs exclusively on gingiva and clinically appears as pale pink to cherry red growth typically located in the interdental region and commonly encountered during pregnancy. Peripheral giant cell granuloma is also a reactive lesion predominantly affecting children and showing giant cells histologically. Gingiva is the second most common site for occurrence of oral soft tissue metastasis of malignancy and may be the first sign of malignancy at a distant site. Clinically, metastatic lesions also appear similar to PGs [1,15] and thus microscopic examination is a must. In current case, microscopic examination ruled out any malignancy and confirmed the diagnosis of Pyogenic Granuloma.

CONCLUSION:

Oral pyogenic granulomas are well documented in literature in young age but its occurrence in old age is uncommon. So when it occurs in an old age, wide excision with the histopathological evaluation is must to rule out malignancy.

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