PYOGENIC GRANULOMA

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ABSTRACT

Pyogenic granuloma is one of the inflammatory hyperplasias seen in the oral cavity. This term is a misnomer because the lesion is unrelated to infection and in reality arises in response to various stimuli such as low-grade local irritation, traumatic injury or hormonal factors. It predominantly occurs in the second decade of life in young females, possibly because of the vascular effects of female hormones. Clinically, oral pyogenic granuloma is a smooth or lobulated exophytic lesion manifesting as small, red, erythematous papules on a pedunculated or sessile base, which is usually hemorrhagic. The surface ranges from pink to red to purple, depending on the age of the lesion. Although excisional surgery is the treatment of choice for it, some other treatment protocols such as the use of Nd:YAG laser, flash lamp pulsed dye laser, cryosurgery, intralesional injection of ethanol or corticosteroid and sodium tetradecyl sulfate sclerotherapy have been proposed. Because of the high frequency of pyogenic granuloma in the oral cavity, especially during pregnancy, and necessity for proper diagnosis and treatment, a complete review of published information and investigations about this lesion, in addition to knowledge about new approaches for its treatment is presented. (J. Oral Sci. 48, 167-175, 2006)

Keywords: inflammatory hyperplasia; pregnancy; pyogenic granuloma

INTRODUCTION

Pyogenic granuloma (PG) is a kind of inflammatory hyperplasia. The term “inflammatory hyperplasia” is used to describe a large range of nodular growths of the oral mucosa that histologically represent inflamed fibrous and granulation tissues. It includes fibrous inflammatory hyperplasia (clinical fibroma, epulis fissuratum, and pulp polyp), palatal papillary hyperplasia, giant cell granuloma, pregnancy epulis and PG.

PG is a common tumor-like growth of the oral cavity that is considered to be non-neoplastic in nature commonly found in pregnant females having poor oral hygiene.

ETIOLOGY AND EPIDEMIOLOGY

While some investigators regard PG as a benign neoplasm, it is usually considered to be a reactive tumour like lesion which arises in response to various stimuli such as a chronic low-grade local irritation, traumatic injury, hormonal factors or certain kinds of drugs. Although it was originally thought to be caused by pyogenic organisms, it is now believed to be unrelated to infection. So the term “pyogenic granuloma” is a misnomer because the lesion does not contain pus and is not strictly speaking a granuloma. It should be emphasized that as infective organisms such as Bartonella henselae (cat-scratch disease), B. henselae and B. quintana (bubonic plague), and human herpes virus type 8 (Kaposi’s sarcoma and angiomyolymphoid hyperplasia) have been identified in other vascular tumors, some authors have postulated that infective agents may play a part in recurrent PG. However, there is no evidence confirming the presence of infectious organisms in larger groups of PGs.

Approximately one third of the lesions occur after trauma, so the history of trauma before development of this lesion is not unusual, especially for extravasating PGs. Poor oral hygiene may be a precipitating factor in many of these patients. Aguilera reported the formation of PG as a result of an injury to a primary tooth and Milano et al. reported a case of PG associated with aberrant tooth development.

CLINICAL FINDINGS

A 28 year old female patient reported to Ahmedabad dental college with a smooth or lobulated exophytic lesion manifesting as small, red, erythematous
papules on a pedunculated base in relation to 12 and 13, which was compressible. The size of the enlargement was 1.5 x 1.5 cms. in diameter after scaling and root planning. The surface of the growth became firm and all the signs of inflammation regressed.

SURGICAL MANAGEMENT
The surgical area was anaesthetized with local infiltration in relation to 12 and 13. An excision of the growth was planned and a 15 no. BP blade was used for excision. The growth was excised from the base of the lesion. The underlying area was thoroughly debrided with gracey curette. Inter-rupted sutures were taken. After having the excisional biopsy the area was covered with periodontal pack. The growth was sent for histopathological examination.

FOLLOW UP
Postoperatively good healing and excellent esthetics were achieved.

POST-OPERATIVE (AFTER ONE WEEK)

HISTOPATHOLOGY
Microscopic examination of PG shows a highly vascular proliferation that resembles granulation tissue. Numerous small and large channels are formed which are engorged with red blood cells and lined by banal flat 170 or plump endothelial cells that may be mitotically active. The blood vessels often show a clustered or medullary pattern separated by less vascular fibrotic septa. Polymorphs, as well as chronic inflammatory cells, are consistently present throughout the edematous stroma, with micro-abscess formation. The fibroblasts are typically plump and mitotic activity may be noted in the stromal cells.

(HISTO-PATHOLOGIC VIEW)
REFERENCES