PYOGENIC GRANULOMA

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***Abstract*: Pyogenic granuloma or granuloma pyogenicum is a well-known oral lesion. The condition is not associated with pus and does not represent a granuloma histologically. Pyogenic granuloma of the oral cavity is known to involve the gingiva commonly. It can also occur on the lips, tongue, buccal mucosa, palate, and the like. A history of trauma is common in such sites. Pyogenic granuloma was originally believed to be a botryomycotic infection. It is tumor like growth that is considered as an exaggerated response to minor trauma.**

***Index Terms*: pyogenic granuloma, fibroblasts, botryomycosis, lobulated.**

I. INTRODUCTION

It is a Soft tissue enlargement of the oral cavity. An enlargement may represent a variation of normal anatomic structures, inflammation, cysts, developmental anomalies, and neoplasm. Within these lesions is a group of reactive hyperplasias, which develop in response to a chronic, recurring tissue injury that stimulates an exuberant or excessive tissue repair response. Pyogenic granuloma is one of the most common entities responsible for causing soft tissue enlargements. The scientifically accurate term for this entity is the lobular capillary hemangioma. Pyogenic granuloma, sometimes known as granuloma pyogenicum, refers to a common, acquired, benign, vascular tumor that arises in tissues such as the skin and mucous membranes. The lesion grossly appears as a solitary, red, pedunculated papule that is very friable.

Pregnancy tumor is histologically identical to pyogenic granuloma of the gingiva occurs during pregnancy gradually increases in size. It occurs due to local minor trauma or irritation and in which tissue reaction is intensified due to endocrine alteration occurring in pregnancy. Occurrence of pyogenic granuloma in man was first described in 1897 by Poncet and Dor. At that time, it was called botryomycosis hominis. Angelopoulos AP proposed the term "hemangiomatous granuloma" that accurately expresses the histopathologic picture (hemangioma like) and the inflammatory nature (granuloma) of oral pyogenic granuloma.

Pyogenic granuloma is well known in dermatology as skin is a common site for this lesion. The term lobular capillary hemangioma is increasingly gaining favor in the dermatologic literature.

II. ETIOLOGY

Pyogenic granuloma was originally believed to be a botryomycotic infection, an infection in horses thought to be transmissible to man. Subsequent work suggested that the lesion was due to infection by either staphylococci or streptococci, partially because it was shown that the microorganisms could produce colonies with fungus-like characteristics. It is now generally accepted; however, that the pyogenic granuloma arises as a result of some minor trauma to the tissues, which provides a pathway for the invasion of nonspecific type of microorganisms. The tissue respond in a characteristic manner to these organisms of low virulence by the overzealous proliferation of a vascular type of connective tissue.

The surface of the pyogenic granuloma, especially in areas of ulceration, abounds with typical colonies of saprophytic organisms.

In the type of inflammation which results in the formation of pyogenic granuloma, the destruction of the fixed tissue cells is slight, but the stimulus to proliferation of the vascular endothelium persists and exerts its influence over a long period of time.

III. CLINICAL FEATURES

Oral pyogenic granuloma occurs over a wide age range with highest incidence in second and fifth decades. It is more common in females. The reason for female predilection is because of vascular effects of female hormones.

Gingiva is the predominant site followed by lips, tongue, buccal mucosa and hard palate. The lesion is usually an elevated, pedunculated, or sessile vascular mass with a smooth lobulated, or even a warty surface, which is commonly ulcerated and shows a tendency for hemorrhage either spontaneously or upon slight trauma.

The lesions are more common in the facial aspect than the lingual or palatal aspects of gingiva and can occur involving both sides including interdental papilla. it may be single or occurs at more than one site, unilateral or bilateral. Sometimes there is exudation of purulent material, but this is not a characteristic feature.

Pyogenic granuloma is deep red or red purple, depending on its vascularity, painless and rather soft in consistency. Some lesions have a brown cast if hemorrhage has occurred into the tissue. The lesion is more common in maxillary anterior region than the posterior region.

IV. HISTOLOGIC FEATURES

Pyogenic granuloma is partly or completely covered by parakeratotic or non-keratinized stratified squamous epithelium. Major bulk of the lesion is formed by a lobulated or a non lobulated mass of angiomatous tissue. Usually, lobulated lesions are composed of solid endothelial proliferation or proliferation of capillary sized blood vessels. The most startling features are the occurrence of vast

numbers of endothelium-lined vascular spaces and the extreme proliferation of fibroblasts and budding endothelial cells. there is usually a moderately intense infiltration of polymorphonuclear leucocytes, lymphocytes, and plasma cells, but this varies depending on the presence or absence of ulceration.
The connective tissue stroma is typically delicate, although frequent fasciculi of collagen fibers are noted coursing through the tissue mass. If the lesion is not surgically excised, there is gradual obliteration of many capillaries and it assumes a more fibrous appearance. This maturation of the connective tissue elements is construed as evidence of healing the lesion.

V. DIFFERENTIAL DIAGNOSIS

Differential diagnosis of pyogenic granuloma includes:
Peripheral giant cell granuloma, peripheral ossifying fibroma, hemangioma, hyperplastic gingival inflammation, Kaposi's sarcoma and non- Hodgkin's lymphoma.

VI. TREATMENT

Surgical excision is the treatment of choice. After surgical excision of gingival lesions, curettage of underlying tissue is recommended. Excision with 2 mm margins at its clinical periphery and to a depth to the periosteum or to the causative agent.
When excising a pyogenic granuloma of the gingiva, extreme care should always be taken to scale the adjacent tooth and make certain that it is free of calculus, since the calculus may act as irritation leading to recurrence of the lesion.

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