Extragingival Pyogenic Granuloma

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CASE REPORT

ABSTRACT

The pyogenic granuloma is thought to represent an exuberant tissue response to local irritation or trauma. Clinically, these lesions usually present as single nodule or sessile papule with smooth or lobulated surface. Although it is known to show a striking predilection for the gingiva (75% of all cases), it can be found extragingivally with varying clinical features that sometimes may mimic more serious lesions, such as malignancies. The clinical diagnosis of such an uncommon extragingival pyogenic granuloma can be quite challenging.

The purpose of this article is to report an unusual case of extragingival pyogenic granuloma occurring on the dorsal surface of tongue.

Keywords: Pyogenic granuloma, Extragingival.

INTRODUCTION

Pyogenic granuloma (PG) is thought to represent an exuberant tissue response to local irritation or trauma.1-3

Pyogenic granuloma is a relatively common, soft tissue tumor of oral cavity that is believed to be reactive and not neoplastic in nature.1,4 The name pyogenic granuloma is a misnomer since the condition is not associated with pus and does not represent a granuloma histologically.5,6

Clinically, these lesions usually present as single nodule or sessile papule with smooth or lobulated surface. The appearance of pyogenic granuloma is usually a color ranging from red/pink to purple. Younger lesions are more likely to be red because of the high number of blood vessels. As lesions mature, the vascularity decreases and the clinical appearance is more collagenous and pink. The peak prevalence is in teenagers and young adults, with a female predilection of 2:1.6 Size ranges from a few millimeters to centimeters. It can be painful, especially if located in an area of the body where it is constantly disturbed.7 Pyogenic granulomas can grow rapidly and will often bleed profusely with little or no trauma.

Pyogenic granuloma of the oral cavity is known to involve the gingiva commonly (75% of all cases) more often in the maxillary than mandibular jaw. Anterior areas are more often affected than posterior areas. Rarely, it may present extragingivally on the lips, tongue, buccal mucosa, palate and so on.1,3,5 Characteristically, PG of tongue is more common in the lateral side of the tongue.8 The reason for this are unclear, but may be related to trauma from adjacent teeth or denture. This article was prompted by the presentation of the lesion on the dorsum of the tongue.

CASE REPORT

A 26-year-old female patient reported to our department with the chief complaint of swelling and pain in the tongue since 5 to 6 days. There was history of trauma while eating 6 to 7 months back. There was no history of increase or decrease in the size of swelling and salivation. Patient was unable to eat and speak due to swelling. On clinical examination a solitary, well-defined, round swelling is seen in middle 1/3 of the dorsal side of the tongue (Fig. 1). The size was approximately 1.2 cm in diameter, covered with normal appearing mucosa. It can be painful, especially if located in an area of the body where it is constantly disturbed.7 Pyogenic granulomas can grow rapidly and will often bleed profusely with little or no trauma.

Fig. 1: Swelling of tongue
The provisional diagnosis of an inflammatory lesion (abscess) was made. The differential diagnosis of pyogenic granuloma and malignant tumor was considered. Ultrasonography and FNAC were advised.

USG report revealed a 12 × 11 × 13 mm sized hypoechoic complex cystic-natured focal lesion with distinct and contains internal echoes strongly suspicious of postinflammatory lesion within the body of tongue.

USG-guided FNAC was done which showed occasional mature squamous cell on hemorrhagic background.

The patient was operated under general anesthesia and the lesion was easily and completely dissected. The histopathological examination showed fibrocellular connective tissue interspersed muscle fibers and patchy areas of granulation tissue. The granulation tissue was made up of numerous endothelium lined capillaries, large size arteries, dense lymphocytic infiltration suggestive of pyogenic granuloma (Fig. 2). The functions of the tongue remained normal after operation. The present case was followed up for 6 months after excision. The wound healing was completed and no recurrence was noted.

DISCUSSION

Pyogenic granuloma was first described by Poncet and Dor in 1897 as ‘human botryomycosis’. Then, Hartzell introduced the term ‘pyogenic granuloma’. Over the years various authors have suggested other name, such as granuloma gravidarum/pregnancy tumor, Crocker and Hartzell’s disease, vascular epulis, benign vascular tumor, hemangiomatosis granuloma, epulis teleangiectaticum granulomatosa and lobular capillary hemangioma. It accounts for approximately 1.5 to 2% of all biopsies from the oral cavity.

The etiology of the lesion is not known, though it was originally believed to be a botryomycotic infection. It is theorized that pyogenic granuloma possibly originates as a response of tissues to minor trauma and/or chronic irritation, thus opening a pathway for invasion of nonspecific microorganisms, although microorganisms are seldom demonstrated within the lesion. Pyogenic granuloma of the oral cavity 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. Lawoyin et al (1997) reviewed 38 cases from Ibadan, Nigeria and reported an average range of 5 to 75 years (mean age 33 years). Most studies demonstrate a definite female predilection with a female to male ratio of 2:1. This is attributed to the vascular effect of female hormones that occur in women during puberty, pregnancy and menopause. The lesions tend to occur more often during the second and third trimester of pregnancy and such lesions are referred to as ‘pregnancy tumors’ (granuloma gravidarum).

Pyogenic granulomas may occur anywhere in the body surface and except the oral cavity, they are common around the fingers and toes. In the oral cavity pyogenic granulomas show a striking predilection for the gingiva, with interdental papillae being the most common site in 70% of the cases. They are more common in the maxillary anterior area than any other area in the mouth. Gingival irritation and inflammation that result from poor oral hygiene, dental plaque, and calculus or overhanging restorations may be precipitating factors in many cases.

The typical clinical presentation of pyogenic granuloma is a small, deep red to reddish-purple lesion occurring on the gingiva, which is either sessile or pedunculated. The surface may be smooth, lobulated or occasionally, warty which is commonly ulcerated and shows a tendency for hemorrhage either spontaneously or upon slight trauma. The lesion is painless and soft in consistency; although older lesions tend to become more collagenized and firm. The size of the lesion usually ranges between 0.5 cm and 2 cm, and they may grow at an alarming rate reaching that size within just 4 to 7 days as in our case. Pyogenic granulomas of head and neck are uncommonly seen extragingivally in areas of frequent trauma, such as the lower lip, tongue, buccal mucosa and palate. Such lesions may resemble their gingival counterparts or can show atypical presentations. Some lesions have a brown cast if hemorrhage has occurred into the lesion. Epulis granulomatosa/epulis hemangiomatosa is a term used to describe hyperplastic growths of granulation tissue that sometimes arises in healing extraction sockets. These lesions are pyogenic granulomas, which arise as a reaction to bony sequestra in the socket. Lee et al in 1994 reported three cases of intraoral pyogenic granuloma occurring as an oral complication after allogenic bone marrow transplant.

Such atypical presentations, like the case in discussion can be rather confusing, and can lead to erroneous diagnoses of other more serious lesions, which can also be thought of as clinical differential diagnosis. These include squamous cell carcinoma, basal cell carcinoma, keratoacanthoma, Kaposi’s sarcoma, amelanotic melanoma, acrolentiginous melanoma, nodular melanoma, and metastatic carcinomas. Capillary hemangioma, bacillary angiomatosis, spitz nevus, fibroma of mucosa, pigmented spindle cell tumor of reed, nevocytic nevus, seborrheic keratosis, angiolymphoid hyperplasia with...

![Fig. 2: Fibrocellular connective tissue with numerous capillaries and lymphocytes](Image)
eosinophilia, furuncle, ecthyma contagiosum, and verruca vulgaris are benign lesions that can be considered in the differential diagnosis.\textsuperscript{10,11} Thus, the clinical diagnosis of an extragingival pyogenic granuloma can be a challenging task. Peripheral giant cell granuloma and peripheral ossifying fibroma are two intraoral lesions that may look clinically similar to gingival pyogenic granulomas.

The histopathological picture of the extra gingival pyogenic granuloma is quite similar to the ones occurring on the gingival. Microscopically, it consists of many dilated blood vessels in a loose edematous connective tissue stroma. There is typically a dense acute inflammatory infiltration but this may be scanty or absent.\textsuperscript{1}

Treatment of pyogenic granuloma consists of conservative surgical excision which is usually curative. There is a relatively high rate of recurrence (about 15\%) after simple excision. Recurrences after surgery of extragingival pyogenic granuloma is however uncommon.\textsuperscript{3}

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