Oral Pyogenic Granuloma

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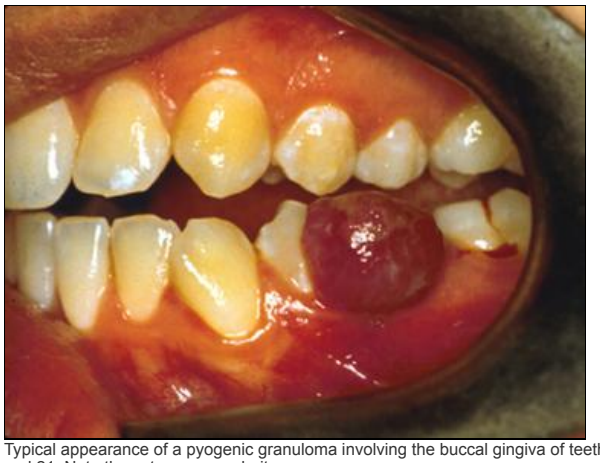
Background

The pyogenic granuloma is a relatively common, tumorlike, exuberant tissue response to localized irritation or trauma. The name pyogenic granuloma is a misnomer since the condition is not associated with pus and does not represent a granuloma histologically. It is a reactive inflammatory process filled with proliferating vascular channels, immature fibroblastic connective tissue, and scattered inflammatory cells. The surface usually is ulcerated, and the lesion exhibits a lobular architecture. Note the image below.



Typical appearance of a pyogenic granuloma involving the buccal gingiva of teeth numbers 20 and 21. Note the extreme vascularity.

Two lesions, peripheral ossifying fibroma and peripheral giant cell granuloma, are clinically identical to the pyogenic granuloma when they occur on the gingiva. If 100 biopsies of pyogenic granuloma–appearing lesions of the gingiva are submitted for histologic examination, approximately 75% will be pyogenic granulomas, 20% will be peripheral ossifying fibromas, and 5% will be peripheral giant cell granulomas. The pyogenic granuloma can occur anywhere in the oral cavity, whereas the peripheral ossifying fibroma and peripheral giant cell granuloma only occur on the gingiva or alveolar mucosa. The clinical appearance, treatment, and prognosis are the same for all 3 entities.

Pathophysiology

The pyogenic granuloma most frequently develops on the buccal gingiva in the interproximal tissue between teeth. Three quarters of all oral pyogenic granulomas occur on the gingiva, with the lips, tongue (especially the dorsal surface), and buccal mucosa also affected. A history of trauma is common in extragingival sites, whereas most lesions of the gingiva are a response to irritation. Individuals with poor oral hygiene and chronic oral irritants (eg, overhanging restorations, calculus) most frequently are affected. Pregnancy exacerbates the tendency to develop a pyogenic granuloma.

Epidemiology

Frequency

Lesions have a similar frequency throughout the world.

Race

No racial predilection is reported.

Sex

Females are far more susceptible than males because of the hormonal changes that occur in women during puberty, pregnancy, and menopause. The pyogenic granuloma has been called a "pregnancy tumor" and does occur in 1% of pregnant women. When possible, wait until after delivery to remove the lesion in pregnant women because of a greater tendency for recurrence during pregnancy.

In a number of cases, mastication on the lesion causes bleeding and pain and

requires surgical intervention before parturition. Some pyogenic granulomas regress after childbirth without surgical intervention.

Age

Pyogenic granulomas occur at any age, but they most frequently affect young adults.

Prognosis

The prognosis is excellent, and the lesion usually does not recur unless inadequately removed. Lesions removed during pregnancy may have a higher recurrence rate. This is a benign reactive/inflammatory proliferation that does not recur after surgical removal. However, lesions of the gingiva need to have the potential irritants such as plaque and calculus removed to prevent a reoccurrence. Mastication on the lesion can cause bleeding and pain and can require surgical intervention before parturition in lesions associated with pregnancy.[1]

Patient Education

This is a benign reactive/inflammatory process that can be avoided (even in pregnancy) by using good oral hygiene and not allowing plaque and calculus to build up on the teeth. The pyogenic granulomas are most commonly found on the gingiva, but they can also be found on other oral locations. Pregnancy exacerbates the tendency to develop this lesion.

Clinical Presentation

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References

1. Sills ES, Zegarelli DJ, Hoschander MM, Strider WE. Clinical diagnosis and management of hormonally responsive oral pregnancy tumor (pyogenic granuloma). *J Reprod Med*. 1996 Jul. 41(7):467-70. [Medline].
2. Vilmann A, Vilmann P, Vilmann H. Pyogenic granuloma: evaluation of oral conditions. *Br J Oral Maxillofac Surg*. 1986 Oct. 24(5):376-82. [Medline].

3. Olmedo DG, Paparella ML, Brandizzi D, Cabrini RL. Reactive lesions of peri-implant mucosa associated with titanium dental implants: a report of 2 cases. *Int J Oral Maxillofac Surg*. 2010 May. 39(5):503-7. [Medline].

4. Acharya PN, Gill D, Lloyd T. Pyogenic granuloma: a rare side complication from an orthodontic appliance. *J Orthod*. 2011 Dec. 38(4):290-3. [Medline].

5. Bhaskar SN, Jacoway JR. Pyogenic granuloma--clinical features, incidence, histology, and result of treatment: report of 242 cases. *J Oral Surg*. 1966 Sep. 24(5):391-8. [Medline].

6. Eisen D, Lynch DP. *The Mouth: Diagnosis and Treatment*. St. Louis, Mo: Mosby; 1998. 58-60.

7. Kamal R, Dahiya P, Puri A. Oral pyogenic granuloma: Various concepts of etiopathogenesis. *J Oral Maxillofac Pathol*. 2012 Jan. 16(1):79-82. [Medline]. [Full Text].

8. Neville BW, Damm DD, Allen CM, Bouquot JE. *Oral & Maxillofacial Pathology*. Philadelphia, Pa: WB Saunders; 2002. 447-9.

9. Neville BW, Damm DD, White DK. *Color Atlas of Clinical Oral Pathology*. Baltimore, Md: Lippincott Williams & Wilkins; 1999. 284-5.

10. Sapp JP, Eversole LR, Wysocki GP. *Contemporary Oral and Maxillofacial Pathology*. 2nd ed. St. Louis, Mo: Mosby; 2003.