

ORAL PYOGENIC GRANULOMA IN THI QAR GOVERNORATE :RETROSPECTIVE STUDY

Dr. Nabra F. Salih. MSc. Cons. *

ABSTRACT :

Oral pyogenic granuloma is the most common inflammatory hyperplasia seen in the oral cavity the purpose of this study was to retrospectively analyze the clinicopathologic feature , histologic pattern and relation to pregnancy in Al-Nasyriah governorate . A total of 100 cases of pyogenic granuloma (PG) during an 10 years period from 2000-2010 were examined. the data were reviewed and analyzed for age , gender , site , clinical and histopathologic features. The results shows that the age mean of occurrence was 29 years and the greatest degree of occurrence in third decade of life in young adult females. The gingiva was the most common affected site (38%) and the maxilla more affected than mandibule (24%) , the main complain was bleeding (65%) , the higher percent in females group was in pregnant women (66%). Non lobular capillary hemangioma (NLCH) (PG) were more fequentluy (73%) than lobular capillary hemangioma (LCH) (PG) (27%). Because of the high frequency of PG in the oral cavity especially during pregnancy so need for proper diagnosis and treatment .

INTRODUCTION

Pyogenic granuloma is a kind of inflammatory hyperplasia which is used to describe a large range of nodular growth of the oral mucosa that Histologically represent inflamed fibrous and granulation tissue .(1,2) (PG) is a common tumor-like growth of the oral cavity or skin that is considered to be non – neoplastic in nature (3,4) .although it is acommon disease in the skin ,it is extremely rare in the gastrointestinal tract ,except for the oral cavity (5)where it is often found on keratinized tissue (6).there are two kinds of PG namely lobular capillary hemangioma (LCH)and non –LCH type ,which differ in their histologic features (7).

Etiology and Epidemiology.

While some investigator (8)regard PG as abengin neoplasm , it is usually considered to be a reactive tumor-like lesion which arises in response to various stimuli such as achronic low-grade irritation (3) ,traumatic injury ,hormonal factors or certain kinds of drugs(9). Although it was originally thought to be caused by

pyogenic organism , it is now believed tobe unrelated to infection(2,3)

Clinical Feature

Clinically PG is asmooth or lobulated exophytic lesion manifesting as small,red erythematous papules on apenduculated or sometimes sessile base,which is usually hemorrhagic and compressible.(1,3)and may develop as dumb-bell-shape masses (10);However,Epivatianos et al.(7)reported that the two types of PG were clinically different. The size varies in diameter from a few millimeters to several centimeters (3).rarely does PG exceed 2.5cm in size and it is usually reaches its full size within weeks or month ,remaining indefinitely thereafter(11).clinical development of the lesion is slow ,asymptomatic and painless(3) but it may also grow rapidly (12)the surface is characteristically ulcerated and friable(2) which may be covered by a yellow,fibrinous membrane (13)and its color range from pink to red to purple ,depending on the age of the lesion .

* Department of pathology. Collage of medicine. Thi qar university.

Correlation with pregnancy

PG of the gingiva develops in up to 5% of pregnancies (14), however, bacterial plaque and gingival inflammation are necessary for sub clinical hormone alteration leading to gingivitis (15). The development of this particular kind of gingivitis, typical in pregnancy, not different from that appearing in non pregnant women, suggests the existence of a relationship between the gingival lesion and the hormonal condition observed in pregnancy. generally it appears in the 2nd-3rd month of pregnancy, with a tendency to bleed and a possible interference with mastication. During pregnancy, PG when treated by surgical excision may reappear due to incomplete excision or inadequate oral hygiene (16). Characteristic oral manifestation of hormonal oral contraceptive intake are similar to oral changes associated with pregnancy, such as the pronounced vascularity of gingiva, hyperplastic gingivitis, and PG.

Histopathology

Microscopic examination of PG shows a highly vascular proliferation that resembles granulation tissue (3). Numerous small and large channels are formed which are engorged with red blood cells (1,3) and lined by banal flat or plump endothelial cells that may be mitotically active (9). There are two histological types of PG. the first type is characterized by proliferating blood vessel that are organized in lobular aggregate although superficially the lesion frequently undergoes no specific changes, including edema, capillary dilation or inflammatory granulation tissue reaction. this histological type of PG was called lobular capillary hemangioma (LCH type) (8), whereas the second type (non-LCH type) consists of highly vascular proliferation that resemble granulation tissue (3,11). the lobular area of the LCHPG contains a greater number of blood vessels with small luminal diameter than does the central area of non-LCHPG. in the central area of non-LCHPG, a significantly greater number of vessels with a perivascular mesenchymal cells non-reactive for alpha smooth muscle actin

and muscle specific-actin is present than in the lobular area of LCH PG. These differences suggest that two histological types of PG represent distinct entities (7). Toida et al. (17) found that the presence of blood vessels with different luminal diameter in the lobular area of LCH PG and in the central area of non-LCH PG may be because of different pathogenic factors influence their development.

Treatment

Excisional biopsy is indicated for treatment of PG, except when the procedure would produce marked deformity, in such a case, incisional biopsy is mandatory (2). So management of PG depends on severity of symptoms. If the lesion is small, painless and free of bleeding, clinical observation and follow up are advised (14). Although conservative surgical incision and removal of causative irritants (plaque, calculus, foreign materials, source of trauma) are the usual treatment (1,3,9) for gingival lesions, the excision should extend down to the periosteum and the adjacent teeth should be thoroughly scaled to remove the source of continuing irritation (3). Recently, some other treatment protocols, instead of excisional surgery, have been proposed. Powell et al. (18) reported the use of ND: YAG Laser for excision of this lesion because of the lower risk of bleeding compared to other surgical techniques.

PATIENTS & METHODS

Information regarding 100 cases of PG of the oral cavity that under went biopsy were reviewed from the records of patients seen at department of histopathology in Al-Imam Al-Hussein teaching Hospital during the period from 2000-2010. data were reviewed and analyzed for age, gender, site, clinical pathologic features in addition to correlation with pregnancy. All specimens were fixed in 10% formalin and embedded in paraffin blocks. tissue sections were plated on slides and followed by dewaxing and rehydration in descendant grades of ethanol and stained by H& E then these slides were studied by histopathologist.

RESULTS

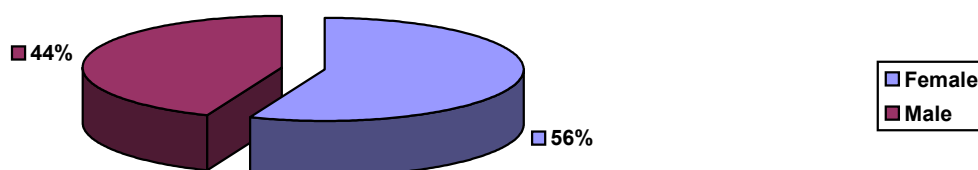
Patients ages ranged from 8-70 years (mean 29 years) with greatest degree of occurrence (27%) in third decade. (table 1). The females group was 56% from the total number of cases, while the male group was 44% . (figure 1). The male to female ratio was 1:1.27 the mean age for male was higher (32.25 year) than for females (27.6 year). The most frequently involved site was the gingiva (38%) other sites were the lips (25%), tongue (24%) and others such as buccal mucosa and palate (13%). (table 2). Gingival PG were more prevalent in the maxilla (24%) than in the mandible (14%) with anterior regions of both jaws being more commonly affected. The main complaint was bleeding (65%), complaint of mass; present for along time, (27%), discomfort (8%). (figure 2). We found that the NLCH occurred more frequently (73%) than LCH (27%) . The gingival PG developed more frequently (66%) in pregnant women .

DISCUSSION

Although PG may occurs in all ages , its predominant in third decade of life in young females , possibly because of the vascular effect of female hormones, studies done in Jordianian (12) and Singaporean (13) population were in agreement with this finding , in contrast to Epivatian *et al* 2005. Oral PG most common in the gingiva which presumably caused by calculus or foreign materials within the gingival gravis. Young PG are highly vascular in appearance because they are composed predominantly of hyperplasic granulation tissue in which capillaries are prominent , thus minor trauma to the lesion may cause considerable bleeding due to its pronounced vascularity this agree with Neville *et al* 2002 were an older lesions tend to become collagenised. In pregnancy the existence of a relationship between the gingival lesion and the hormonal conditions and the persistence of plaque induced catarrhal inflammation of the gingiva that served as abase for the development of hyperplasic gingivitis.

Age	No.	%
1 st decade	10	10%
2 nd decade	26	26%
3 rd decade	27	27%
4 th decade	13	13%
5 th decade	8	8%
6 th decade	10	10%
7 th decade	6	6%

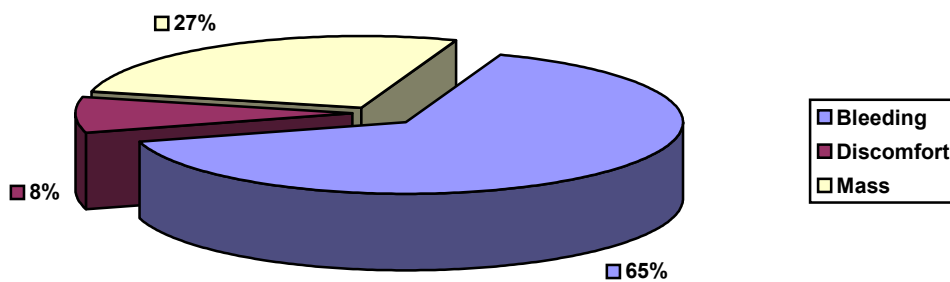
Table (1):patient ages with percent



Figure(1):male to female ratio

Sites	No.	%
Upper lip	13	13%
Lower lip	12	12%
Upper gingiva	24	24%
Lower gingiva	14	14%
Tongue	24	24%
Others	13	13%

Table (2):correlation between sites and their percentage



Figure(2):the clinical feature

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انتشار العقد الحبيبية الخمجية الفموية في محافظة ذي قار دراسة رجعية

د. نيرى فخر صالح*

خلاصة البحث

العقد الحبيبية الخمجية الفموية واسعة الانتشار في الفم. الغرض من هذه الدراسة هو تحليل الخصائص السريرية والنسجية من خلال الدراسات الرجعية وكذلك ارتباطها بالمرأة الحامل في محافظة الناصرية. شملت الدراسة 100 حالة خاصة بالعقد الحبيبية وتم إعادة النظر بها وتحليلها وفحصها واستحصاف معلومات تشمل العمر، الجنس، مكان الإصابة، الخصائص السريرية والنسجية. لقد كانت النتائج انتشار العقد الحبيبية بشكل كبير ومعدل العمر للمريض كان 29 سنة، واللثة هي أكثر الأماكن في الفم إصابة (38%) والفك العلوي أكثر من الفك السفلي وكانت معظم الشكوى من المريض هي حصول نزف في العقد (65%) والنساء أكثر إصابة من الرجال وتكون النساء الحوامل أكثر إصابة (66%). كان نوع النسيج الأكثر انتشاراً من العقد الحبيبية هي النوع غير الفصصي (73%) من النوع الفصصي (27%) لذلك نوصي بالاهتمام بهذا النوع وطريقة العلاج ومعالجة المرضى ومتابعتهم.

* ماجستير علوم معالجة الاسنان. فرع الامراض /كلية الطب/جامعة ذي قار