



**PALATAL PYOGENIC GRANULOMA IN A 5 MONTHS OLD INFANT: A RARE CASE
REPORT**

**NADİR GÖRÜLEN BİR VAKA OLARAK 5 AYLIK BEBEKTE PALATAL PİYOJENİK
GRANULOMA**

Dr. Öğr Üyesi Zeynep Aslı GÜÇLÜ*

Arş. Gör. Zeynep IŞIK*

Dr. Öğr Üyesi Ahmet Emin DEMİRBAŞ**

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ABSTRACT

Aim: Previous studies about oral pathologies indicated wide range of oral lesions may present in pediatric population. Knowledge of prevalence and clinical features of lesions is important to accurate diagnosis and proper treatment. The purpose of this case report is to show uncommon placed lesion at a very early age, as a rare condition.

Case Report: A 5-months-old male infant was referred to our clinic with a mass on the hard palate which had grown in a short time period. Clinical examination showed solid, pedunculated, lobulated nodule that protruded from the palatal gingiva. Surgical treatment was planned under general anesthesia. Following the excision and histopathological examination, the diagnosis was confirmed as pyogenic granuloma. The healing was nearly completed at one week successfully. No recurrence was observed in one-year follow-up period.

Conclusions: It is important to clinicians be aware of the intraoral lesions in neonatal period. All clinical features of oral lesions should be carefully evaluated for correct diagnosis and appropriate treatment planning.

Keywords: Infant; lobular capillary hemangioma; oral pathology; palatina; pyogenic granuloma

ÖZ

Amaç: Oral patolojilerle ilgili daha önce yapılmış çalışmalar, pediatrik popülasyonda oldukça geniş bir dizi lezyonun ortaya çıkabileceğini göstermektedir. Oral patolojilerin prevalansının ve klinik özelliklerinin tanınması doğru teşhis ve uygun bir tedavi planı için önemlidir. Bu vaka raporunun amacı lokalizasyonu ve yaş döneminin erken oluşu itibarıyla nadir olan bir lezyonu sunmaktır.

Olgu Sunumu: 5 aylık bir erkek bebek sert damağında bulunan ve kısa sürede büyüyen kitle nedeniyle kliniğimize başvurmuştur. Bebeğin klinik muayenesinde, palatal dişetinden büyüyen, sert, sapsız, lobüle bir nodül tespit edildi. Genel anestezi altında cerrahi tedavi planlandı. Total eksizyon ve histopatolojik incelemenin ardından piyojenik granüloma tanısı konuldu. Operasyon sonrası iyileşme bir haftada başarıyla tamamlandı. Cerrahi işlem sonrası 1 yıllık takipte rekürrens gözlenmedi.

Sonuç: Yenidoğan döneminde klinisyenlerin intraoral lezyonlar hakkında bilgili olması önemlidir. Oral lezyonların tüm özellikleri doğru bir tanı tedavi planlaması için dikkatle değerlendirilmelidir.

Anahtar Kelimeler: İnfant; lobüler kapiller hemanjiom; oral patoloji; palatina; piyojenik granülom

* Department of Pediatric Dentistry, Erciyes University Faculty of Dentistry , Kayseri.

** Department of Oral and Maxillofacial Surgery, Erciyes University Faculty of Dentistry, Kayseri.



INTRODUCTION

Pyogenic granuloma (PG), also used the term 'lobular capillary hemangioma', is a benign, tumor like soft tissue enlargement of the oral cavity. The term pyogenic granuloma is a misnomer because the lesion doesn't contain pus and also is not actually related with granulomatous changes histologically.¹⁻³

PG is relatively common and its frequency ranged from 3.81% to 7% of all lesions of the oral cavity.⁴ It is reported that about 60% of PG lesions occurred inbetween 11-40 years of age with a female predilection, although it may occur at any decade of life.⁵ PG is rare at infantile age compared to other age groups.^{6,7}

There is no certain comment for etiology of PG.⁷ Cytogenic abnormalities, trauma, hormonal influences, viral oncogenes, underlying microscopic arteriovenous malformations, the production of angiogenic growth factors have been suggested regarding the development of PG.¹

Clinically, the appearance of pyogenic granuloma is pedunculated or sessile exophytic growth, smooth or lobulated surface that bleeds easily spontaneously or with little trauma. The size of PG varies from a few millimetres to several centimetres. Clinical development of the lesion is usually rapid, asymptomatic but it can be painful if the constant trauma exists in the region.^{2,3,8,9} PG is most frequent located on maxillary anterior segment over the gingiva. Lesions sometimes appear on the lips, tongue, buccal mucosa, and palate.^{1,7}

Many treatments options have been defined for PG such as local excision, cryosurgery, laser surgery and electrodesiccation treatment.^{1,7,10} Recurrence is rare if the excision is done the underlying periosteum and the predisposing factors removed.^{7,11}

This article reports a 5-months old male infant with PG causing feeding difficulties presented as a congenital epulis.

CASE REPORT

A 5-months-old male infant was brought by his parents to the Pediatric Department of Erciyes University Faculty of Dentistry with the complaint of inefficient feeding and a mass they realised in the

infant's upper anterior jaw. The parents initially noticed the lesion just a short time before and they reported that the mass had growing rapidly until they noticed.

The infant's medical history was taken. According to medical history all prenatal and postnatal evaluations were normal and no abnormality was reported. He was born after uncomplicated normal spontaneous vaginal delivery with 3.2 kg. His physical examination showed no abnormalities.

In the intraoral examination a solid mass had seen on maxillary anterior palatal region. The examination showed the mass surface was lobulated smooth and glistening, the size was about one-centimetre diameter and oval-shaped. It was located approximately 5 mm in front of the incisive papillae and attached to the maxillary gingiva by a fibrous peduncle (Fig. 1). The first diagnosis of this patient was clinically consistent with congenital epulis when the location and the age of the patient were taken under consideration. Hemangioma, neonatal alveolar lymphangioma, neuroectodermal tumor of infancy and pyogenic granuloma were also considered in the differential diagnosis.

The surgical treatment was planned immediately because of the insufficient feeding pattern. Treatment was planned under general anesthesia for infant's stabilization. The mass was excised using monopolar electrocauter under general anesthesia. The excised specimen was send to histopathological examination (Fig. 2). Histopathologically, it was confirmed as PG.

There was minimal postoperative bleeding during the surgery shown in Fig. 3 and the infant was discharged on the same day with no medications. Regular breastfeeding was initiated immediately after surgery. The first follow up visit, it was viewed that the healing was nearly completed at one week and the infant was able to breastfeed easily and gaining weight. No recurrence was observed in one-year follow-up period (Fig. 4).



Figure 1: First oral examination, mass approximately 5 mm in front of the incisive papillae and attached to the maxillary gingiva by a fibrous peduncle.



Figure 2: The excised mass.



Figure 3: The view of palate after the operation.



Figure 4: Successful healing and no recurrence after 1 year follow-up.

DISCUSSION

A wide range of oral lesions and conditions may present in pediatric population.¹²⁻¹⁴ One of the study describing the oral lesions in newborn children found that the most common findings were oral inclusion cysts 29% of the children situated palatally.¹⁴ Other studies about prevalence of oral abnormalities suggested that common oral lesions and conditions in newborn periods are natal and neonatal teeth, dental lamina cysts, ankyloglossia, clefts and congenital epulis of the newborn which is the most common of them Epstein's pearls and Bohn's nodules.^{3,15,16}

It is because of the largest researches prevalence rates does not include infants, it is actually difficult to appoint that in which age range pediatric oral lesions usually seen.^{12,17} Some studies in the literature is reported that PG is predominant in the second decade of life in young adult females (female:male=2:1).^{2,18} In accordance with this information, in a study of 293 cases in a Brazilian population between 0 and 77 years old investigated by Gordón-Núñez et al⁷, the findings showed that these lesions are predominantly involved females and seen between 11 and 20 years age (%29.5). In a retrospective study on 233 materials of histological biopsy was searched in pediatric population between 0 and 19 years old.⁶ The findings showed that, about 68% of lesions occurred at the age of 10-19. However in 3 cases PG was found between the age of 0-4, and 15 cases between 5-9 ages, showed PG rarely seen at infancy as in present rare case report. In a review about oral pyogenic granuloma it is reported that patients with PG under 18 years of age are mostly males.¹⁰ An analysis of oral and maxillofacial pathology that found in children between 0 and 16 years old was in agreement with this finding.¹³ According to mentioned study 72 of the 135 patients with PG were male as in this case report.

In the oral cavity, PG is mostly seen on the gingival region (75%), maxillary anterior gingiva affected more than mandibular gingiva, followed by lips, tongue and buccal mucosa.² Gordón-Núñez et al.⁷ reported that about 83 percent of lesions involved the gingiva in a retrospective analysis of 293 cases about PG. The site distribution of PG in the age groups showed there is only one patient had sited at palate between 0-10 years as they described uncommon

region according to their retrospective study. In rare conditions, PG may occur extralingually as in present case.^{2,7,18} The etiology of PG is not described precisely.^{7,9-11} There are some different ideas about etiology. It can be referred as a benign neoplasm or it can be occurred as a reactive tumor-like lesion because of response to chronic local trauma, traumatic injury or hormonal factors.^{1,10} In addition, some studies in the literature was mentioned that constant trauma could play major role for development of PG in about one third of the lesions.^{7,10} The etiological reason in present case could be trauma. When considering the patient's age and style of feeding PG can be developed because of continuous dummy-sucking. On the other hand the latest developments and tendency note that lesion represents a benign neoplasm structures, a form of capillary hemangioma, rather than a reactive infectious or traumatic process.³

When a mass is detected during oral examination it is important to analyze carefully. Oral examination findings could be confusing in uncommon cases. Histological examination is very important to make the differential diagnosis of oral and maxillofacial lesions.^{3,10} Differential diagnosis of PG includes Epstein's pearls, Bohn nodules, congenital epulis, viral enantheams, granular cell tumors, natal teeth, hemangiomas, reparative giant cell granulomas, teratomas, gingival cysts as nodular cystic lesions of the enamel organ, ranulas, and melanotic neuroectodermal tumor of infancy.^{3,19} In this case although the mass appeared clinically proper with a congenital epulis, following excision and histological examination, it proved to be a pyogenic granuloma.

The size of lesion, the risk of bleeding and the possibility of further growth of the lesion, the age of patient and the location of lesion should be considered when deciding to choose many treatment options defined for PG.^{1,10} Different therapies such as laser treatment, cryosurgery, injection of ethanol or corticosteroid and sodium tetradeclly sulfate sclerotherapy aside from excisional surgery have been noticed.^{10,20} Elimination of initiative irritants, clinical observation and follow up is advised if the lesion is small, asymptomatic and free of bleeding.^{2,10} The other options for treatment of PG is surgical excision or laser treatment. Laser treatment could be preferred with the advantages of increased risk of bleeding, easy procedure for children, providing more esthetic

results.^{2,10,19} In this case, excisional biopsy was planned under GA when considered about the age of patient, difficulty in feeding, sufficient diagnosis of lesion and to complete the treatment with only one operation.

CONCLUSIONS

Routine oral examination of the newborn is an essential procedure that may lead to recognition and diagnosis infants oral pathological conditions. It is important that clinicians should be aware of occurrence of intraoral lesion in neonatal period. All clinical features of oral lesions and conditions should be carefully evaluate to make a correct diagnosis and detect a appropriate management of treatment planning and allow proper counselling to parents. One of these lesions, PG can be treated with full healing by proper surgical treatment

Zeynep Aslı Güçlü: ORCID ID: 0000-0003-0453-0167

Zeynep Işık: ORCID ID: 0000-0001-7577-3487

Ahmet Emin Demirbaş: ORCID ID: 0000-0002-2602-6415

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Yazışma Adresi

Zeynep Aslı GÜÇLÜ

Adress: Erciyes University Faculty of Dentistry

Adres: Erciyes Üniversitesi Diş Hekimliği

Fakültesi Pedodonti ABD 38039

Melikgazi Kayseri Turkey

Tel: +90 352 4447138

Fax: +90 352 4380657

E-mail: zaguclu@gmail.com

