Pyogenic Granuloma: Lobular Capillary Hemangioma in the Upper Lip of a 24-month-old Child: Case Report

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ABSTRACT

A pyogenic granuloma is a benign vascular lesion, considered reactional, that usually occurs in the gingiva between the second and third decades of life. It is usually caused by traumatic injuries and local irritation. The purpose of this paper is to report a rare case of a 2-year-old child with a pyogenic granuloma in the upper lip caused by trauma-resulting in increased size, breast-feeding difficulties, and esthetic concerns, and to present the treatment instituted.

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pyogenic granuloma (PG) is characterized by a common skin or mucosal vascular hyperplasia,1-4 Lusually considered a reaction lesion caused by factors such as local irritation, traumatic injuries, 5,6,10,12 hormonal changes,^{9,10,13} viral^{9,13} and bacterial infections.¹³ The lesion does not contain pus.^{4,5,8,11} Because of the absence of pyogenic infection, the term lobular capillary hemangioma has been often used for this condition.^{3,8,9,14}

The lesion can be found on the face, trunk, and limbs.^{3,9,14} The most frequent location in the oral cavity is the gingiva's anterior region,^{12,15-17} but other areas such as the tongue, oral mucosa, and lips can also be affected.^{4,10,11,15} The incidence is higher in females (by a 1.5:1 ratio) and occurs more frequently between the second and third decades of life.3,8,9,11

Clinically, a PG is characterized by a mass of soft consistency. It is commonly smooth or lobulated, sessile or pediculated, painless, fast growing, 5,8,12,14 and single and may present multiples surrounding lesions,9 with a color ranging from pink to purple-red. A hemorrhage may occur spontaneously or after a small trauma, 4,7,10,11 and its size may vary,^{3,4,6} with the mean size of the lesion being 7.3 mm7.

The final diagnosis of PG is only possible through histopathologic examination.9-11 It can be treated by several techniques: surgical excision; laser surgery; sclerotherapy; curettage; cryotherapy with liquid nitrogen; laser vaporization with carbon dioxide; or a combination of methods. 5,7,9,11

The purpose of the present article was to report a rare case of a 2-year-old child who presented with a pyogenic granuloma in her upper lip after a trauma.

CASE REPORT

A 2-year-old girl was referred by the Department of Surgery to the Department of Pediatric Dentistry at Federal University of Rio de Janeiro, Brazil, presenting with a hyperplasic lesion on her upper lip. The mother's main complaint was related to esthetics and the child's feeding problem.

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During the exam, the child's general health data were irrelevant. The mother reported that the patient suffered a trauma—she fell on the stairs, hitting her mouth on the floor, 2 months before the dental visit. Four weeks later, trauma similar to a wart appeared in the upper lip, increased rapidly in size, and presented spontaneous bleeding. After that, the child acquired a lip-sucking, lesion-biting habit, as its size increased, amplifying the feeding problem. The child continued with the pacifiersucking habit, even after the lesion appeared and the mother was advised to eliminate the habit.

The extraoral examination revealed a solitary lesion of soft consistency on the upper lip's right side. The lesion had irregular margins and a reddish color. Additionally, it was pediculated and ulcerated, measuring approximately 16 mm, which was similar to a reactional lesion with a possible diagnosis of PG (Figure 1). The intraoral examination revealed the presence of healthy primary dentition, with a small enamel fracture in the primary maxillary right central incisor and no periodontal alteration.

The patient's blood count, which was requested at the first visit to the dentist, was within normal limits. The treatment of choice was the excisional biopsy under local anesthesia, which occurred without incidents (Figures 2 and 3). The specimen was taken for histopathological examination, showing a soft tissue fragment presenting hyperparakeratinized epithelium with areas of atrophy and conjunctive tissue with a large quantity of blood vessels and lymphoplasmocytariun inflammatory infiltrate. These characteristics confirmed the diagnosis of PG (Figure 4).

After 1 week, the patient returned to remove the sutures. Scar tissue was visible, and the mother related that the child was feeding better (Figure 5).



Figure 1. Clinical aspect of the lesion on the upper lip right side.

DISCUSSION

The most common location of PG is the anterior gingiva's region,^{5,12,16,17} with higher prevalence between the second and third decades of life.^{3,8,9-11} In the present report, however, the lesion was on the upper lip of a 2-year-old girl.

According to some authors, PG's main etiological factor is the traumatic injury, characterizing the lesion as reactional.^{1,5,10} In this case the lesion in this case appeared a few weeks after the girl had fallen from the stairs and developed due to a lip-sucking habit. It presented with bleeding and ulceration as the result of a chronic traumatic injury caused by pacifier sucking and lesion biting, corroborating the findings of some authors.^{4,8,13,11} Although it can present in many sizes,^{3,6,8,10} the PG in the present case measured 16 mm, which is uncommon when compared with other reports that observed a mean size of 7.3 mm.⁷ In the case of a small child, it causes a bigger impact on the caregivers.

The clinical examination of the lesion suggested the probable diagnosis of PG, which was only confirmed by histopathologic examination, corroborating the findings of other authors.^{4,9,10,11} Furthermore, this lesion has several differential diagnoses, such as: angiosarcoma; basal cells carcinoma; squamous cell carcinoma; Kaposi carcinoma; hemangioma; bacillary angiomatosis; parulis; peripheral giant cell granuloma; peripheral ossifying fibroma; peripheral fibroma; leiomyoma; hemangioen-dothelioma; hemangiopericytoma; metastatic tumor; gravidic tumor; and postextraction granuloma, which were only discarded after the histopathologic examination.⁷⁻¹¹

There are several treatment methods for the PG. The patient's hemogram was within normal limits, eliminating any chance of infection, and the PG is a benign



Figure 2. Excised specimen measuring approximately 16 mm.



Figure 3. Clinical aspect after excisional biopsy.



Figure 4. Histopathological features of Pyogenic Granuloma (Lobular Capillary Hemangioma). a) Original magnification: HE x 40; b) Original magnification: HE x 100.

lesion.¹¹ Consequently, the choice for the present case was surgical excision, performed at the base of the lesion and with a safety margin, which is the most used surgical technique.^{3,9-11} Furthermore, there is a lower level of recurrence with surgical excision,^{5,7,9} which allows histopathologic examination and can be performed on



Figure 5. Clinical aspect 1 week after excisional biopsy.

lesions of any size.⁹ The surgical excision provided an immediate esthetic improvement, addressing the mother's main complaint and allowing the child better feeding conditions.

CONCLUSION

To make a differential diagnosis and allow adequate treatment, it is important that a detailed medical and dental history and clinical examination be allied to the histopathologic examination with the aim of discarding other lesions.

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