

A Case of Pyogenic Granuloma in a 12-Year-Old Girl: Clinical Presentation, Diagnosis, and Treatment

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Abstract

Case Report

This case report presents a 12-year-old girl with a papule on her cheek that had been evolving for three months. The papule was excised, and histopathological examination revealed a pyogenic granuloma characterized by vascular proliferation in loose conjunctival tissue. This case highlights the importance of considering pyogenic granuloma in the differential diagnosis of persistent skin lesions in pediatric patients.

Keywords: pyogenic granuloma, papule, conjunctival tissue.

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INTRODUCTION

Pyogenic granuloma (PG), also known as lobular capillary hemangioma, is a benign vascular lesion that commonly occurs on the skin and mucous membranes. Although it is more frequent in children and young adults, it can present diagnostic challenges due to its similarity to other dermatological conditions. This report describes a presentation of a pyogenic granuloma on the cheek of a 12-year-old girl, emphasizing the clinical presentation, diagnostic process, and management.

CASE PRESENTATION

A 12-year-old girl with no significant past medical history, presented with a single papule on her right cheek, noted to be evolving over a period of three months without any history of injury. The papule was approximately one centimeter in diameter, erythematous, and non-tender, with frequent episodes of bleeding which led to a consult, the patient had cryotherapy with nitrogen for three weeks with no results, which led to surgical excision with cauterizing the vessel base under local anesthesia (Fig 1). The histopathological examination revealed, after hematoxylin and eosin staining, a polypoid skin surface, ulcerated on the top, with a fibrinoleukocytic film. The underlying chorion included an inflammatory granulation tissue made up of radial capillaries linked to dense, polymorphic inflammatory infiltrate rich in neutrophils, consistent with a pyogenic granuloma. Follow-up at one and three

months showed no recurrence of the lesion and good cosmetic results. The patient remained symptom-free with no complications and no additional treatments were required post-excision.



Figure 1: Preoperative markings



Figure 1 : Results at 2 months follow-up

DISCUSSION

Pyogenic granulomas are characterized by rapid growth and a tendency to bleed easily due to their high vascularity. Although the exact etiology is unknown, trauma and hormonal changes are considered potential contributing factors. In this case, the prolonged evolution and clinical appearance of the papule warranted surgical excision. Histopathological examination confirmed the diagnosis of pyogenic granuloma, which is essential for appropriate management and to rule out malignancy [1-3].

The differential diagnosis for such lesions includes hemangiomas, Kaposi sarcoma, and melanoma. It is important to consider pyogenic granuloma in the differential diagnosis of persistent, rapidly growing cutaneous lesions in children. Comparing this case with similar reports in the literature, it is noted that pyogenic granulomas frequently occur on the head and neck region in children. Pyogenic granulomas should be considered in the differential diagnosis of persistent skin lesions, especially those with a rapid growth pattern and a tendency to bleed. [2, 4, 5]. Histopathological examination is crucial for accurate diagnosis and appropriate management [6-8].

This later include a surgical excision under local anesthesia providing a definitive diagnosis through histopathological examination, ensures complete removal, and has a low recurrence rate although it may

result in scarring. Laser therapy targets the blood vessels within the lesion, causing coagulation and shrinkage. Pulsed dye laser, carbon dioxide laser can be used for this purpose with satisfying cosmetic outcomes, although this techniques are limited by high costs, a significant risk of recurrence. Cryotherapy using liquid nitrogen is a minimally invasive, quick procedure that can also be used in multiple lesions [1-4].

Topical Treatments like Imiquimod, timolol and silver nitrate are non-invasive and easy to apply but may require prolonged application, and potential for local irritation [9]. Sclerotherapy is reserved for larger lesions. Electrodesiccation and Curettage where the lesion is scraped off using a curette, and the base is cauterized using electrical current, can be used for small lesions, despite the risk of scarring and recurrence [12].

For PG in children pyogenic granuloma, the treatment choice should consider the several factors. Location and size of the facial lesions require treatments with good cosmetic outcomes to minimize scarring. Minimally invasive techniques are preferred for pediatric patients to reduce anxiety and pain. Finally, ensuring complete removal is essential to minimize the risk of recurrence [2, 3].

Regardless of the therapeutic strategy chosen, follow-up is essential to monitor for recurrence and manage any complications. Regular check-ups and patient education on signs of recurrence are important aspects of post-treatment care [11, 13].

CONCLUSION

This detailed overview should help provide a comprehensive understanding of the treatment options for pyogenic granuloma in children, along with considerations for selecting the appropriate therapy for your specific case.

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