

Pyogenic granuloma successfully cured by sclerotherapy: A case report

Hasibur Rahman, Hadiuzzaman

Department of Dermatology & VD, Community Based Medical College, Mymensingh, Bangladesh

Abstract

Pyogenic granuloma (PG) is common benign vascular lesion of the skin and mucosa. It is not infective, purulent or granulomatous (as the name might suggest) - rather, a reactive inflammatory mass of blood vessels and a few fibroblasts within the dermis of the skin. The exact cause is not known but multiple factors have been implicated in the etiology of pyogenic granuloma. Various treatment options exist without any consensus, PGs have been treated by cryosurgery, curettage, electrodessication, chemical cautery and lasers. The therapeutic effects of these conservative treatments are limited and recurrence rates are high. Though sclerotherapy is being used extensively for varicose veins, its use as a treatment modality for pyogenic granuloma is not commonly reported. Herein, we present a case of pyogenic granuloma treated by intralesional injection of sodium tetradecyl sulfate without recurrence.

Key words

Pyogenic granuloma, sclerotherapy, sodium tetradecyl sulfate.

Introduction

Pyogenic granuloma (PG) is a benign localized exuberant mass composed of proliferating capillaries in loose stroma produced after injury or local infection. The term pyogenic granuloma is a misnomer and lobular capillary hemangioma is the preferred term.¹ It occurs on skin and mucosal surfaces of upper aero-digestive tract but has also been reported to occur in gut, burn scars and intravenously.^{2,3} PG has no malignant potential but recurrence is quite common after excision.⁴ The etiology of PG is not fully understood. The rapid growth occurs in response to an unknown stimulus that triggers endothelial proliferation and angiogenesis. Trauma and burns can provoke the sequence but frequently there is no identifiable cause. It starts as a

solitary, red, purple or yellow papule or nodule arising from normal skin. Size varies from a few millimeters in diameter to several centimetres.^{5,6} PG may have polypoid appearance and often develop a stalk or collarette of scale at the base. Friable lesion - they are often seen to be bleeding, crusted or ulcerated. Rapid eruption and growth occurs over a few weeks. Most commonly, they occur on the head, neck and extremities (particularly the fingers). They occasionally occur on the external genitalia.⁷ In pregnancy, they are most likely to occur on the maxillary intraoral mucosal surface during the second and third trimesters. They have also been reported on the labial mucosa in men.⁸ Rarely, multiple satellite lesions may develop - especially in adolescents and young adults after prior attempts to remove the original lesion. Differential diagnosis includes basal cell carcinoma, squamous cell carcinoma, Kaposi's sarcoma, glomus tumor, congenital hemangioma and amelanotic malignant melanoma.⁹ Some advocate sending all lesions for histological

Address for correspondence

Prof. Hasibur Rahman,
Department of Dermatology & VD,
Community Based Medical College,
Mymensingh, Bangladesh
Email: dr_cosmoderma@yahoo.com

confirmation, because the vascular nature of the lesion makes dermoscopy unreliable.⁹ However, there may be occasions on which dermoscopy may be considered sufficient e.g. typical appearance in a very young child.¹⁰ Most patients seek help because of the bleeding associated with the lesion. Treatment options include curettage and cautery, shave excision, excision with primary closure and laser therapy.^{11,12} Cryotherapy may work but does not provide a histological specimen for diagnosis. One study reported the use of sclerotherapy employing sodium tetradecyl sulfate as the sclerosant.¹³

We report a case of PG on scalp successfully treated with sclerotherapy.

Case Report

A 35-year-old male patient presented came to the Department of Dermatology & VD of Community Based Medical College with 3-month history of a growing soft mass over the scalp. There was history of frequent bleeding from the lesion spontaneously and on trivial trauma. The lesion started three months back after an injury which the patient had himself inflicted to remove a small pigmented lesion at the same site. The lesion gradually increased to the present size within a period of two months. There was no history suggestive of any systemic disease. Patient was not on long-term use of any drug.

On examination, there was a pedunculated mass protruding from the middle of the head measuring 1.5 x 1x 0.5 cm. The base was narrow and measured 0.5x0.5cm. It was not fixed to the underlying bone. The surface was pink to purplish gray in color and had crusts and old blood clots indicating bleeding episodes (**Figure 1**). The surrounding skin was normal. There was



Figure 1 A pink to red pedunculated mass on scalp.



Figure 2 Complete healing of lesion after two weeks.

no regional or generalized lymphadenopathy. The general physical and systemic examination was normal. Radiographs of chest and ultrasonography of abdomen and pelvis was normal. Complete blood counts, liver function tests and kidney function tests were all in normal limits. On the basis of history and clinical

examination a provisional diagnosis of PG was made. Considering the vascular nature and the potential response to sclerotherapy, we planned intralesional injection of sodium tetradecyl sulfate, a Food and Drug Administration- and Egyptian Drug Authority-approved detergent sclerosant. Informed consent was taken and surgical cleaning of the area was done. No local anesthesia was used during the procedure. The sclerosant used was 3% sodium tetradecyl sulfate and a maximum of 0.1 ml of undiluted sclerosant was injected into the lesion with the help of an insulin syringe till the point of blanching. After this, the lesion was compressed with cotton gauze for 1-2 minutes. There was no bleeding during the procedure. The patient was completely comfortable. Lesion healed completely after two weeks (**Figure 2**). There was no complication after the procedure. No recurrence was found during a six months follow-up period.

Discussion

Pyogenic granulomas are benign, exophytic vascular tumors first described by Poncet and Dor in 1897. These are quite often in children and young adults but is unusual in elderly.¹⁴ Although exact pathogenesis is not known, trauma, hormonal influences, inflammatory and infectious agents have all been hypothesized as possible factors in causation.^{15,16} Because of similarity in clinical and histopathological findings with bacillary angiomatosis, some workers have suggested that PGs may be caused by *Bartonella spp.* infection.¹⁷ We were unable to find any predisposing factor other than trauma in our patient. Pain and bleeding are the most usual problems associated with this lesion. These tumors may occur on either the skin or mucosal surface, although the latter accounts for about 60% of all cases. In the extensive review of 289 cases by Kerr, the following were the

most common sites, in descending order of frequency, gingiva (64 cases), fingers (44 cases), lips (40 cases), face (28 cases), and tongue (20 cases). Although pyogenic granuloma can be diagnosed clinically with considerable accuracy radiographic and histopathological investigation are used for confirming the diagnosis and planning the treatment.¹⁰ All clinically suspected pyogenic granuloma must be biopsied to rule out more serious condition. The histopathological picture of the extralingival pyogenic granuloma is quite similar to the ones occurring on the gingiva or other parts of the body.

Treatment of PG consists of conservative surgical excision, which is usually curative. Although these are reactive hyperplasias, they have a relatively high rate of recurrence after simple excision, especially in pregnant patients. A recurrence rate of 15% has been noted. After surgical excision of gingival lesions, curettage of underlying tissue is recommended. Recurrence after surgery of extralingival PGs is however uncommon.^{13,15}

We treated our patient with sclerotherapy. The advantages of this procedure are that it causes minimal discomfort to the patient, negligible blood loss, less cumbersome, minimal surgical expertise is required and above all is economical. There is no requirement of local anesthesia or postoperative dressings or any specific care. The patient can perform his daily activities immediately.

Conclusion

Sclerotherapy with sodium tetradecyl sulfate 3% is effective in the treatment of pyogenic granuloma. It offers an alternative to conventional methods like surgery, lasers, radiofrequency ablation and electrodesiccation. This may be a simple, safer, feasible outdoor

procedure with success and less chances of recurrences.

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