

Case Report

Topical Timolol Drops in the Management of Pyogenic Granuloma of Lip

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Pyogenic Granulomas (PG) are common benign vascular tumors of skin and mucous membrane which commonly presents in children and young adults. Clinically PG presents as friable, erythematous papule or nodule located on the head and upper extremities with a tendency to rapidly grow and bleed with minor trauma. Usually, PGs are treated with surgical excision. Here we report a case where topical application of 0.5% timolol drops led to complete resolution of PG of lower lip in a young adult with no recurrence at 3 months.

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Key words : Topical timolol, Pyogenic Granuloma.

P pyogenic Granulomas (PG) are common benign vascular tumors of skin and mucous membrane which commonly presents in children and young adults¹. Usually, PGs are treated with surgical excision. Here we report a case where topical application of 0.5% timolol drops led to complete resolution of PG of lower lip in a young adult with no recurrence at 3 months.

CASE REPORT

A 13-year-old girl presented with history of an elevated lesion over the lower lip for the past 6 months which bleeds on minor trauma (eating, brushing teeth). On examination, a single well defined erythematous crusted nodule with a collarette scale of 1.1 x 1.2 cm was seen over the lower lip. Clinical diagnosis of PG was considered and planned electrosurgical excision after a week. Meanwhile, patient was started on 0.5% timolol drops (2 drops thrice daily) which was applied over the lip, to reduce the bleeding during the excision. On review at 15 days, surprisingly the lesion was found to be resolving with marked reduction in size. Excision was deferred and timolol drops was continued for 8 weeks and at the end of eight weeks there was complete resolution of the lesion. Patient was reviewed monthly once, for a period of 3 months and found to have no recurrence (Figs 1-3).

DISCUSSION

PG is a commonly occurring benign vascular tumor. They are commonly seen in skin and mucous membranes

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Editor's Comment :

- Topical timolol drops can be used to reduce the vascularity of pyogenic granuloma and it can be considered as one of the treatment option for smaller lesion.

following trauma but can also be associated with the use of medications (oral contraceptives, isotretinoin, propyl thiouracil, etc), congenital syndromes (PASH syndrome, PAPA syndrome, PAPASH syndrome, etc), and hormonal changes like in pregnancy. Clinically PG presents as friable, erythematous papule or nodule located on the head and upper extremities with a tendency to rapidly grow and bleed with minor trauma.

Histologically, there is proliferation of capillaries with plump endothelial cells separated into lobules by a fibro myxoid stroma. Occasionally, a thicker blood vessel can be seen at the base of the lesion. Many PGs resolve spontaneously. But some may destruct the local area and produce morbidity due to disfigurement and bleeding. Many therapeutic options are available². Conventionally PGs are treated by surgical excision, electrodesiccation, cryotherapy and ablative or vascular lasers. But the potential complications include pain, scarring and dyspigmentation.

Despite the high clearance rate, surgical excision may not be the preferred treatment modality in some patients, such as children and those with keloidal tendencies. Surgical intervention can worsen PG through pathergy, and similar to surgical debridement, topical debriding agents are partially contraindicated³. Non-surgical treatments for PG, including imiquimod, bleomycin, ingenol mebutate cream, phenol, topical beta-blockers (timolol 0.5% and propranolol 1%) and silver nitrate. Propranolol, a non-selective beta-adrenergic receptor blocker, is the first-line oral therapy for complicated infantile hemangiomas. Wine Lee, *et al* were the first to use timolol 0.5% (twice daily) on 7 children with PGs (6 cutaneous, 1 mucosal). There was variability in the time of response to therapy, although all showed at least a partial response within 2 months⁴.



Fig 1 — Pyogenic Granuloma over lower lip before treatment

The most recent study by Gupta, *et al* reported 10 patients with PG who were treated with timolol 0.5% solution (applied 4 times a day). Four patients showed a complete response within 3-24 days, with no recurrence at 3-month follow-up. Three patients had a partial response and the remaining 3 did not respond to therapy⁵. For PG in lip, topical timolol drops use has been rarely reported in children, with favorable results. The utility of topical timolol gel (0.5%) in the treatment of PG in children has been reported. As illustrated by this case, Timolol eye drops (0.5%) could prove to be a less expensive yet effective alternative in the treatment of PG in resource limited settings. Topical timolol drops prove to be a safe modality for treatment for PG particularly in face and lip areas as pointed out in literature. Large scale studies are needed to explore the efficacy of topical timolol as monotherapy in the treatment of PG.

CONCLUSION

Topical timolol in the form of drops could serve as an effective, safe and less expensive modality in the treatment of mucosal PGs, as shown by our case report.

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Fig 2 — Pyogenic Granuloma after 15 days of treatment



Fig 3 — Pyogenic Granuloma after 1.5 months of treatment

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