

Conjunctival Pyogenic Granuloma: A Case Series of 2 Pediatric Patients

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In case 1, an otherwise healthy 15-year-old girl presented to an outpatient clinic with concern for right upper eyelid swelling, irritation, and tenderness. The patient had first noticed the irritation upon waking that morning. She had attended school per her usual routine and had been given an icepack, which the patient said had helped with the swelling and the pain. The patient did not note any redness, drainage, or photophobia. She denied any new exposures, insect bites, travel, or trauma. Her past medical history was significant for hyperopia and eczema. She had no major allergies and was up to date on all immunizations.

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The patient was afebrile and appeared in no acute distress; all vital signs were within normal limits. On physical examination, her pupils were equal, round, and reactive to light with extraocular movements intact. No erythema, edema, warmth, or conjunctival injection was noted. A small, shiny, pedunculated papule was noted on the right superior lateral palpebral conjunctiva, with mild, localized tenderness to palpation on the outer eyelid (**Figure 1**). Visual acuity in both eyes was 20/20. The physical examination revealed no other abnormalities.

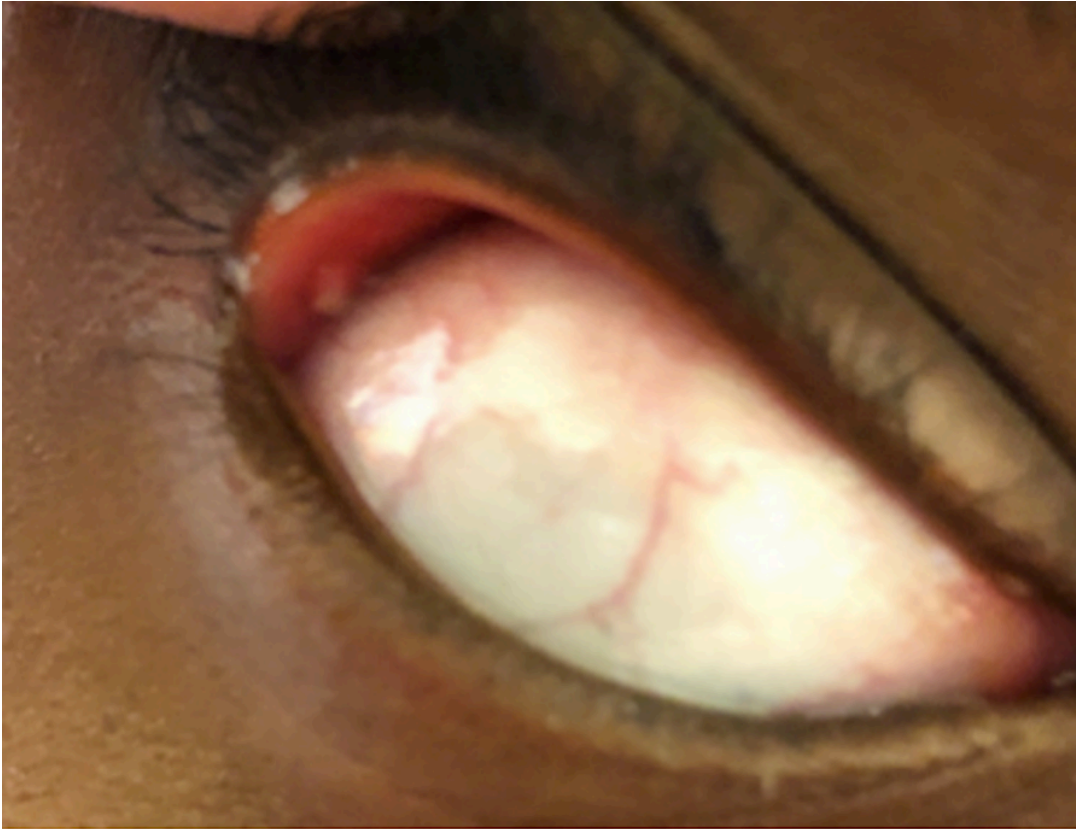


Figure 1. A small, shiny, pedunculated papule on the right superior lateral palpebral conjunctiva of a 15-year-old girl.

In case 2, a 5-year-old boy presented to an after-hours clinic with a nonpainful eyelid lesion. His parents stated the child did not seem bothered by the lesion, but that he did notice it in his visual field. The parents did not notice any drainage, and the patient had no history of recent eye infections. Similarly to the patient in case 1, the family noted no new exposures, travel, or trauma to the area. He had been treated 1 week prior for otitis media and had noticed an improvement in his otitis media symptoms. His past medical history was otherwise not significant. He had no major allergies and was up to date on all immunizations.

The patient was afebrile and in no acute distress; all vital signs were within normal limits. On physical examination, an approximately 1-cm, erythematous, fleshy, glistening, raised lesion was present on the palpebral conjunctiva, under the left upper eyelid laterally (**Figure 2**). The pupils were noted to be equal, round, and reactive to light with extraocular movements intact. The remainder of the physical examination revealed no abnormalities.

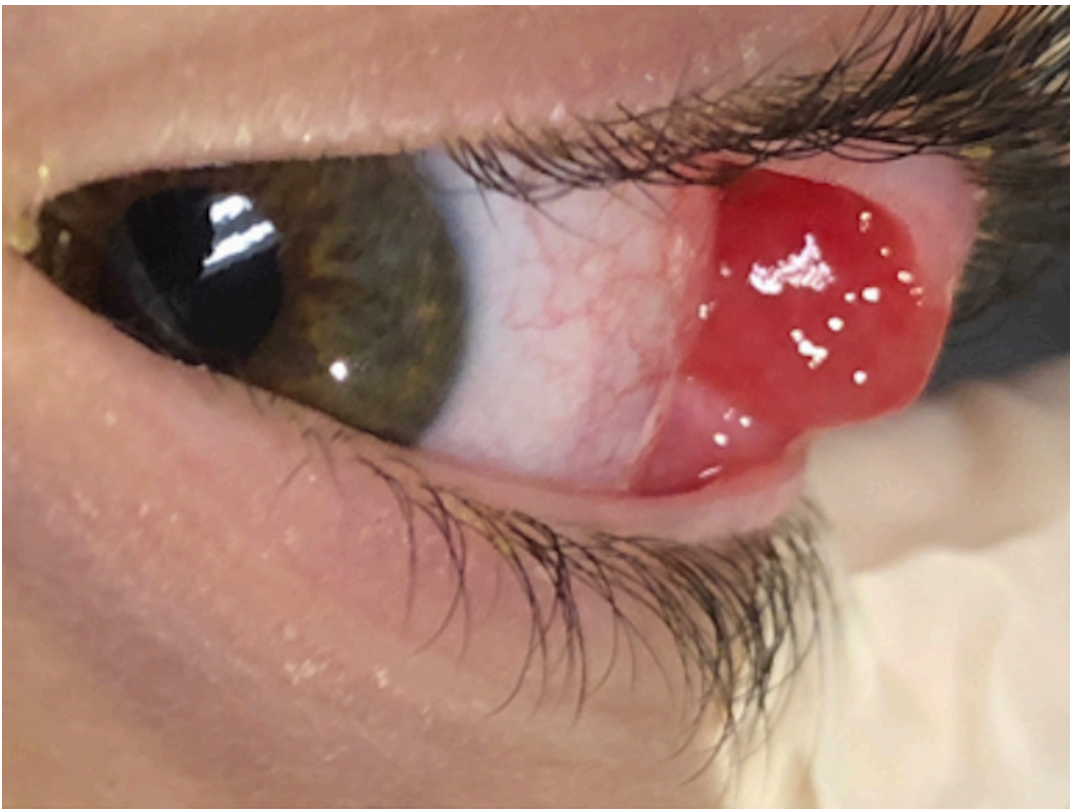


Figure 2. An approximately 1-cm, erythematous, fleshy, glistening, raised lesion on the left superior lateral palpebral conjunctiva of a 5-year-old boy.

Diagnosis. The differential diagnosis for eye lesions such as those seen here includes both benign and malignant etiologies. Among the benign causes are papilloma (benign epithelial tumor), orbital varix (venous malformation), hemangioma (vascular malformation), and pyogenic granuloma (inflammatory lesion).^{1,2} Malignant etiologies include conjunctival intraepithelial neoplasia and squamous cell carcinoma (SCC).^{1,2} In both patients described here, the history of a new-onset eyelid lesion, combined with the physical appearance of the lesions—described as glistening, erythematous, and pedunculated—is consistent with a diagnosis of conjunctival pyogenic granuloma (PG).

Treatment. Both patients were prescribed a regimen of clean, warm compresses to be applied to the affected eye for 15 minutes, 4 times per day.

Most cases of conjunctival PG self-resolve either with time or the use of warm compresses, but those that persist or cause significant symptoms can be treated with topical corticosteroids or, if needed, simple excision.³ A recent case series has also shown some evidence of successful response to timolol maleate ophthalmic solution (a nonselective β -blocker eye drop used in glaucoma to lower intraocular pressure by reducing aqueous humor production and as treatment for superficial periocular capillary hemangiomas), which lacks many of the adverse effects associated with corticosteroid treatment.^{4,5} Given the lack of clear evidence for the need for timolol drops, however, our patients were prescribed the traditional regimen of warm compresses.

Both patients were counseled to return to the clinic if pain, redness, swelling, drainage, or visual disturbances arose.

Outcome of the cases. During telephone follow-up 1 week later, the girl in case 1 reported resolution of the lesion and no associated symptoms. At a 1-month follow-up call, the parents of the boy in case 2 reported no ophthalmologic concerns or symptoms.

Discussion. Conjunctival PGs are vascularized inflammatory lesions of granulation tissue that arise from an excessive healing response.^{3,6} Clinically, they present as a smooth, pedunculated, raised, red lesion, although they can also be sessile.^{3,6} They may grow rapidly and can bleed easily, which is often the reason for patient presentation to an ophthalmologist or emergency department, requiring immediate treatment.^{3,6}

Conjunctival or other ocular PGs commonly arise from a chalazion (a painless eyelid nodule caused by glandular obstruction), trauma, surgery, or some other underlying epithelial defect.^{3,6} Cases have also been rarely reported in association with contact lens use, other ocular prostheses, or ocular acne rosacea.⁷⁻⁹

Histologically, they are composed of small vessels, inflammatory cells (macrophages, lymphocytes, and plasma cells), and loose connective tissue.⁶ They can be divided into either an inflammatory or fibrous pattern; the inflammatory pattern is more commonly seen in older patients and those with recent trauma or surgery, whereas the fibrous pattern is seen in younger patients (such as those described here) and those with a history of chalazion.¹⁰ It is worth noting that the term *pyogenic granuloma* is a misnomer, since these lesions are neither infectious nor granulomatous in nature.

Conjunctival PGs are benign; however, malignant lesions (including conjunctival intraepithelial neoplasia and SCC) may mimic their appearance, and conjunctival PGs may coexist alongside malignant lesions.¹¹ For this reason, conjunctival PGs, particularly recurrent or rapidly developing granulomas, should be carefully considered as potential malignant lesions.¹¹ While the diagnosis of conjunctival PG is clinical, suspicious lesions can be biopsied for further clarification. Just as malignant ocular lesions may mimic ocular PGs, malignant lesions on other parts of the body may also mimic PGs. Malignancies that may mimic epidermal PGs include basal and SCC, malignant lymphomas, Kaposi sarcoma, and melanoma.¹²

Conjunctival PG represents a benign etiology that generalists can identify and treat, either with or without ophthalmologic specialist guidance. If the lesion does not respond to a regimen of warm compresses, a referral should be made to an ophthalmologist for reevaluation to rule out more serious pathology or trial other potential treatment options.

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