



Giant Papilla Prolapse from the Upper Tarsal Conjunctiva in a 3-year-old Child: A Case Presentation and a Brief Literature Review

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Abstract

Giant papillae (1.0 mm or greater in diameter) on the upper tarsal conjunctiva are one of the most common findings in cases of vernal keratoconjunctivitis (VKC). Presently described is the case of a 3-year-old female with a unilateral giant papilla formation prolapsing from the medial side of the upper tarsal conjunctiva toward the ocular surface in the left eye. A brief review of the recent literature concerning the etiology, associated risk factors, surgical options, and management of patients with giant papillae is also discussed. A significant reduction in the size of the papilla was observed after a week of medical treatment with a topical steroid and antiallergic eye drops. To the best of our knowledge, this case demonstrates the first time that a giant papilla appeared in the form of a prolapsed mass extending from the tarsal conjunctiva in a child with VKC. Ophthalmologists should keep in mind that a giant papilla can look like another form of conjunctival mass, and should not rush to excise or biopsy, as it may respond to medical treatment.

Keywords: Conjunctival mass, giant papillae, medical treatment, vernal keratoconjunctivitis

Introduction

Vernal keratoconjunctivitis (VKC) is a chronic conjunctival inflammatory allergic condition predisposed to atopic disease. Due to its chronic nature, it can damage the cornea, resulting in sight-threatening complications if left untreated. The disease primarily affects young children, starting in the first decade of life (1-5). Giant papillae (1.0 mm or greater in diameter) located on the upper tarsal conjunctiva are one of the most common findings in VKC. Papillae are signs of active inflammation in the palpebral conjunctiva. Treatments of choice for reducing papillae include topical medications (e.g., antihistamines, mast cell stabilizers, corticosteroids, cyclo-

sporine A, and tacrolimus) and/or oral medications (e.g., antihistamines and corticosteroids), as well as immunotherapy for recalcitrant cases (5,6). In the event of failure to respond to these medications, supratarsal corticosteroid injection (7-11) and surgery, such as resection (12-15), amniotic membrane (12), mucous membrane (13,14), or autologous conjunctival grafting (15), and carbon dioxide laser application (16) have been reported.

We report the first known instance of a giant papilla appearing in the form of a prolapsed mass extending from the tarsal conjunctiva toward the ocular surface in a child with VKC. The objective is to emphasize that giant papillae may

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mimic another type of conjunctival mass. Dramatic healing of the papilla in this case was seen with topical medical treatment of steroid and antiallergic eye drops without the need for surgery.

Case Report

A 3-year-old female with an apparent conjunctival mass on the left eye present for 1 week presented at the clinic. She had no ocular complaints of itching, redness, pain, photophobia, burning, or tearing. An ophthalmological examination revealed a giant papilla formation prolapsing from the medial side of the upper tarsal conjunctiva toward the ocular surface in her left eye (Fig. 1). It extended downward and slightly covered the corneal surface. Fortunately, the pupillary axis was unaffected. The giant papilla was approximately 4 to 5 mm in size, smooth, and had a pinkish color. There was also a mild accompanying conjunctival mucous secretion. The inferior tarsal conjunctiva appeared normal. No limbal or corneal involvement was observed. The fundus was normal. Ophthalmic examination of the right eye disclosed no abnormality. She did not have a systemic disease or other atopic manifestations (e.g., asthma or atopic dermatitis) or a relevant family history. There was also no history of trau-

ma, contact lens use, ocular prosthesis, or ocular surgery. The refraction was +1.50 D in both eyes. Topical treatment with antiallergic eye drops (olopatadine hydrochloride 0.1%, twice daily), preservative-free tear substitute (polyvinyl alcohol and povidone, 4 times a day), fusidic acid twice a day, and a steroid (loteprednol etabonate 0.5 %, 3 times a day) was initiated, with the suspicion that the giant papilla was a sign of VKC. Antihistamine syrup (cetirizine dihydrochloride) once a day was also used. After 1 week of medical treatment, a marked reduction in papilla size, an approximately 90% decrease, was observed (Fig. 2). Informed consent was obtained from the patient's parent for publication of this case report.

Discussion

VKC is a chronic inflammatory disease of the ocular surface and an important type of allergic conjunctival disease. It is frequently observed in young children (especially young boys) with onset usually occurring around the age of 7 years (1-5). The most common signs are giant papillae, superficial keratitis, and conjunctival hyperemia. Patients with VKC frequently have a family or medical history of atopic diseases, such as asthma, rhinitis, or eczema. Complications and re-



Figure 1. Prolapsed giant papilla formation on the medial side of the upper tarsal conjunctiva in the left eye of the child.



Figure 2. Reduction of the prolapsed giant papilla in the left eye 1 week after medical treatment.

modeling changes can lead to blindness in children with VKC; therefore, giant papillae can be a sight-threatening complication (1-5).

Giant papillae are distinguished from follicles by the presence of blood vessels in the center of follicles as well as around the edges. Follicles are more commonly observed in the inferior palpebral conjunctiva and the inferior fornix (4). Papillae are more often seen in the upper palpebral conjunctiva, and are greater than 1 mm in diameter and tend to be quite protuberant above the plane of the conjunctival surface, as in our case, whereas follicles are gray-white, creamy, or yellow in color and may be as small as 0.5 mm in diameter (4). Therefore, the present case was thought to be more likely allergic in origin, rather than infectious. Generally, most VKC cases are bilateral with symmetrical involvement; however, asymmetrical involvement and unilateral cases can occur (1-5). This case had rare unilateral involvement. In addition, the patient was a 3-year-old female, with no history of allergy or ocular complaints such as itching, and the only sign was a giant papilla. Nevertheless, the entire clinical picture made us consider a giant papilla.

Giant papillae may resemble another form of conjunctival mass and can make diagnosis difficult. The differential diagnosis of a pediatric conjunctival mass includes dermolipoma, reactive lymphoid hyperplasia, juvenile xanthogranuloma, extratarsal chalazion, pyogenic granuloma, lymphangioma, hemangioma, hamartoma, histiocytoma, melanoma, rhabdomyosarcoma, epibulbar schwannoma, and choristoma (17-31). These tumors are grouped into 2 major categories: congenital and acquired lesions. Acquired lesions are further subdivided based on origin of the mass into surface epithelial, melanocytic, vascular, fibrous, neural, histiocytic, myxoid, myogenic, lipomatous, lymphoid, leukemic, metastatic, and secondary tumors (17-31).

In this case of an acquired mass thought to be a giant papilla, conjunctival vascular tumor was the first to be considered in the differential diagnosis. A variety of vascular tumors, including lymphangioma, lymphangiectasia, pyogenic granuloma, infantile capillary hemangioma, and Kaposi's sarcoma, can occur in children at various anatomic locations in the conjunctiva (17). Vascular tumors tend to occur unilaterally on the bulbar conjunctiva, and the majority are benign (17). Several predisposing factors, such as trauma, surgery, and heredity, can cause conjunctival masses. In our case, the conjunctival mass was unilateral and without any history of risk factors. It originated from the tarsal conjunctiva and healed quickly with topical medical treatment of a steroid and antiallergic eye drops without the need for surgical intervention.

Mild cases of VKC tend to remit with nonspecific and supportive therapy. In contrast, severe cases are usually

more protracted with remission/relapse occurring for a prolonged period of time and can include corneal involvement and amblyopia (4,5). In this case report, a giant papilla was covering 1 to 2 mm of the superonasal side of the cornea in the primary position. Fortunately, the optic axis was unaffected and there was no marked refraction error.

In conclusion, topical medical treatment with a steroid and antiallergic eye drops can produce a quick recovery from a giant papilla without the need for surgery. While giant papillae can look like a tarsal conjunctival mass in children, ophthalmologists should not rush to perform an excision or biopsy, as it may respond to medical treatment.

Disclosures

Informed consent: Written, informed consent was obtained from the patient's family for the publication of this case report and the accompanying images.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

Authorship Contributions: Involved in design and conduct of the study (BEK); preparation and review of the study (BEK); data collection (BEK, SK).

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