

# Atypical Manifestation of Conjunctival Epithelial Inclusion Cyst: A Case Report

Dong Hyun Kim Sang In Khwarg Joo Youn Oh

Department of Ophthalmology, Seoul National University Hospital, Seoul, South Korea

## Key Words

Conjunctiva · Cyst · Epithelial inclusion cyst · Subconjunctival mass

## Abstract

**Purpose:** To report a case of primary conjunctival epithelial inclusion cyst with atypical manifestation. **Methods:** A 66-year-old woman presented with a yellowish, subconjunctival mass extending from the corneal limbus to the medial canthus in the left eye. Clinical, radiological and histological assays were performed. **Results:** The mass was well-delineated, and the overlying conjunctiva was normal. An enhanced axial orbit computed tomography scan showed a 7.7 × 3.6 mm, well-demarcated, convex-shaped enhanced mass. Neither a connection to the orbital area nor extrusion of intraconal fat was observed. Histological examination revealed that the lesion was a cystic mass that was lined by nonkeratinized, stratified squamous epithelium, and filled with mucous materials and cellular debris. The histologic diagnosis was consistent with conjunctival epithelial inclusion cyst. **Conclusion:** A careful examination using clinical, radiologic and histological studies is essential for the differential diagnosis of subconjunctival mass.

© 2014 S. Karger AG, Basel

## Introduction

Conjunctival epithelial inclusion cysts comprise 6–13% of conjunctival lesions and 80% of conjunctival cystic lesions [1]. Most inclusion cysts present as a subconjunctival cystic mass filled with clear fluid and are easily diagnosed by clinical examination. However, several reports have demonstrated atypical manifestations of cysts masquerading as a subconjunctival abscess, melanoma or hematoma [2–4]. We here present a case of primary conjunctival epithelial inclusion cyst with an atypical manifestation.

Joo Youn Oh, MD, PhD  
Department of Ophthalmology  
Seoul National University Hospital  
101 Daehak-ro, Jongno-gu, Seoul 110-744 (South Korea)  
E-Mail [jooyounoh77@gmail.com](mailto:jooyounoh77@gmail.com)

## Case Report

A 66-year-old nonobese Asian woman presented with a large conjunctival mass in her left eye that caused ocular irritation and limitation of eye movement. The conjunctival mass was already present at birth, but had enlarged remarkably during the last 10 months. The patient had no history of inflammatory diseases, ocular trauma or surgery. Her visual acuity was 20/20 in both eyes, and the intraocular pressure was within normal limits. There was a –2 limitation to abduction in the left eye. Slit lamp examination revealed a large, yellowish, subconjunctival mass on the nasal side of her left eye (fig. 1a). The mass extended from the corneal limbus to the medial canthus (fig. 1b), but was well-delineated superiorly and inferiorly (fig. 1c). The conjunctiva overlying the mass was smooth and normal without any epithelial defect or sign of inflammation or infection. The lesion was soft on palpation, but not movable. An enhanced axial orbit computed tomography (CT) scan showed a 7.7 × 3.6 mm, well-demarcated, convex-shaped enhanced mass on the anterior and nasal side of her left eye (fig. 1d). Neither a connection to the orbital area nor extrusion of intraconal fat was observed. For a definite diagnosis and treatment, an en bloc excision of the lesion was performed under local anesthesia, and the excised lesion was sent for biopsy. Intraoperatively, the mass was soft in texture and could be easily dissected from the surrounding tissues without adhesion. The histological examination revealed that the lesion was a solitary cystic mass lined by nonkeratinized, stratified squamous epithelium (fig. 1e, f). The cyst was filled with mucous materials and cellular debris, and there were no goblet cells or adnexal dermal appendages (fig. 1e, f). The histologic diagnosis was consistent with conjunctival epithelial inclusion cyst.

## Discussion

Conjunctival epithelial inclusion cysts result from traumatic or iatrogenic implantation of conjunctival epithelial cells following trauma or surgery. However, the cysts can develop spontaneously or congenitally during the embryonic period by separation of a portion of conjunctival epithelial cells. The diagnosis of an inclusion cyst is usually made based on a typical translucent cystic appearance of the lesion. However, in cases where bleeding, infection or pigments are present in the intracystic materials, the definite diagnosis may be difficult by clinical examination alone [2–4]. In our patient, the conjunctival epithelial inclusion cyst manifested atypically as a large yellowish mass extending from the corneal limbus to the medial canthus. Among the disorders in the differential diagnosis, subconjunctival fat prolapse was of concern. However, subconjunctival fat prolapse is usually located superotemporally in the eye of an obese man, and rarely in the nasal area [5, 6]. Also, prolapsed fat is usually found in the sub-Tenon's space and does not extend to the corneal limbus. Moreover, the CT scan of our patient did not show a density identical to that of intraorbital fat, which is characteristic of fat prolapse [7]. Another differential diagnosis includes subconjunctival abscess [2]. However, there were no signs of inflammation in the lesion, and the patient had no history of trauma or surgery that might predispose to infection. Our case was also differentiated from orbital lymphoma in that the mass was soft with distinctive borders and was not connected to the intraorbital area. Orbital lymphoma typically includes a firm lesion of salmon color, and has a solid appearance on CT that follows the contour of the orbit.

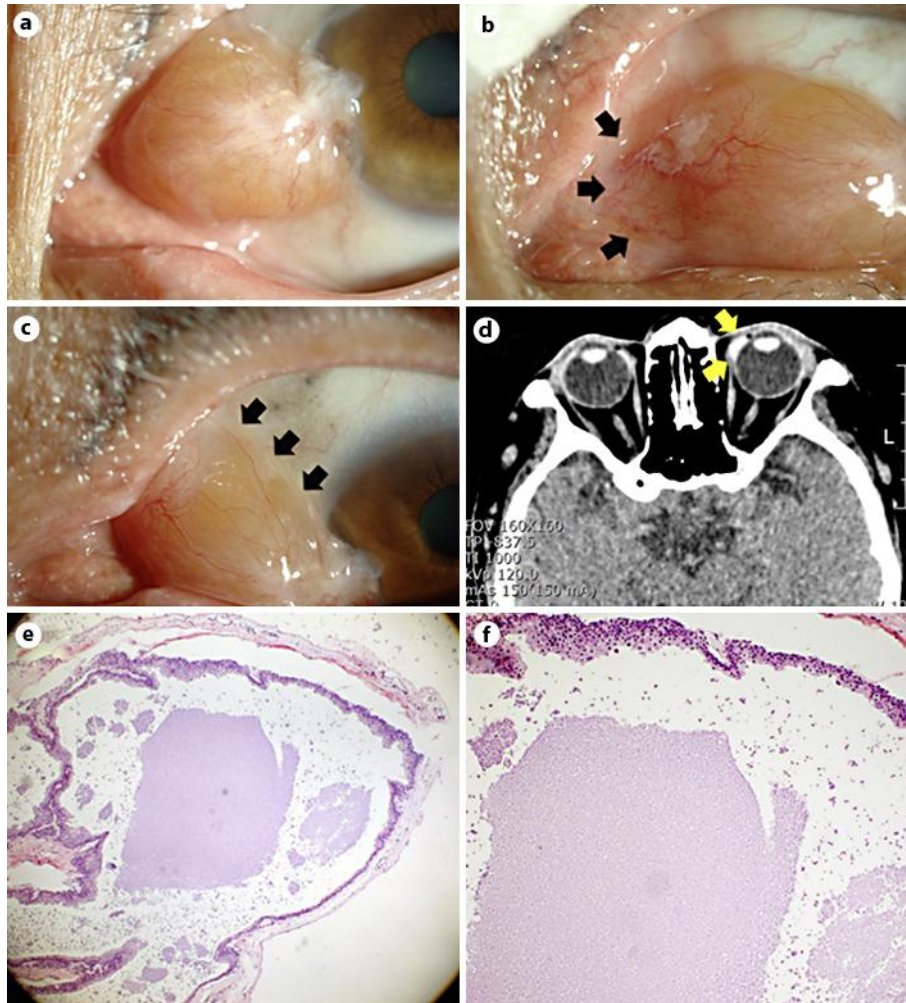
In conclusion, a careful examination using clinical, radiologic and histological studies is essential for the differential diagnosis of a subconjunctival mass.

### Disclosure Statement

The authors have no conflicts of interest.

### References

- 1 Shields CL, Demirci H, Karatza E, Shields JA: Clinical survey of 1,643 melanocytic and nonmelanocytic conjunctival tumors. *Ophthalmology* 2004;111:1747–1754.
- 2 Khan AO, Al-Katan H, Al-Baharna I, Al-Wadani F: Infected epithelial inclusion cyst mimicking subconjunctival abscess after strabismus surgery. *J AAPOS* 2007;11:303–304.
- 3 Jeanniton C, Finger PT, Leung E, McCormick SA, Chin K, Milman T: Infected epithelial inclusion cyst simulating conjunctival melanoma. *Ophthal Plast Reconstr Surg* 2013;29:e131–e134.
- 4 Kim JH, Oh SY: A conjunctival cyst with delayed internal hemorrhage after strabismus surgery. *J AAPOS* 2008;12:409–411.
- 5 McNab AA: Subconjunctival fat prolapse. *Aust NZ J Ophthalmol* 1999;27:33–36.
- 6 Masoud MT, Shaikh MY: Images in clinical medicine. Subconjunctival swelling – prolapse of orbital fat. *N Engl J Med* 2007;356:67.
- 7 Kim E, Kim HJ, Kim YD, Woo KI, Lee H, Kim ST: Subconjunctival fat prolapse and dermolipoma of the orbit: differentiation on CT and MR imaging. *AJNR Am J Neuroradiol* 2011;32:465–467.



**Fig. 1.** a–c Anterior segment photography of the left eye. The 7 × 8 mm well-defined, yellowish subconjunctival mass was located in the nasal conjunctiva (a). The mass was extended to the medial canthus (b), but had distinctive borders superiorly and inferiorly (c). d An enhanced axial orbit CT scan showed an enhanced convex-shaped distinctive mass on the anterior and nasal side of the left eye. There was neither a connection to the intraorbital space nor extrusion of intraconal fat. e, f Histologic examination demonstrated a solitary cyst that was lined by nonkeratinized, stratified squamous epithelium and that was filled with mucous materials and cellular debris.