

## Case Report

Clin Exp Ocul Trauma Infect. 2023;5(1),1 - 4

### **SCLERAL INJURY MIMICKING CONJUNCTIVAL CYST**

Prof Dr Berna Akova,MD<sup>1</sup>

<sup>1</sup> Bursa Uludag University, School of Medicine, Department of Ophthalmology

#### **Abstract**

A 45 year old male patient was referred to Department of Ophthalmology for conjunctival cyst in his left eye. His ophthalmic examination revealed conjunctival cyst formation in temporal conjunctiva. Both eyes had uncorrected vision of 1.0. The intraocular pressures were measured to be normal. The fundus examination revealed normal findings. A nail had struck his left eye 2 days ago. The orbital computed tomography (CT) scan was reported to be normal but anterior segment optical coherence tomography of the cyst was clinically inconclusive for a simple cyst. The patient underwent exploration of the left eye and an occult scleral penetration was noted.

**Keywords:** trauma, cyst, sclera, anterior segment optical coherence tomography, ophthalmology, eye

## Introduction

Open globe injuries are usually detected easily at time of complete ophthalmic examination. However, some cases may be challenging to diagnose. For occult globe injuries, computed tomography scans of orbita is of great value for the diagnosis of occult open globe injuries (1).

Herein, we present a 45 year-old male patient who was referred for conjunctival cyst in his left eye. We suspected occult open globe injury. The orbital CT scan was reported to be normal. Upon clinical suspicion, we decided to perform an exploration of left eye under general anesthesia.

## Case Presentation

A 45 year-old male patient was examined for his complaint of conjunctival cyst formation in his left eye (Figure 1). He had a history of nail striking 2 days before.

His visual acuity was 1.0 on both eyes. The intraocular pressures were measured to be normal. His funduscopy was normal.

Optical coherence tomography (OCT) of both eyes revealed normal findings ( Figure 2) but anterior segment OCT images raised the suspicion of an occult injury of sclera. The image was not compatible with a simple conjunctival cyst (Figure 3).

Though the orbital CT was reported to be normal, the cyst formation and scleral wall thinning was notable in orbital CT images ( Figure 4) increasing our suspicion of occult injury. Then it was decided to perform an exploration of left eye under general anesthesia. It came out to be scleral penetration with vitreus between wound edges and primary repair of the globe was performed.



**Figure 1.** Conjunctival cyst in the temporal side of the left eye of the patient

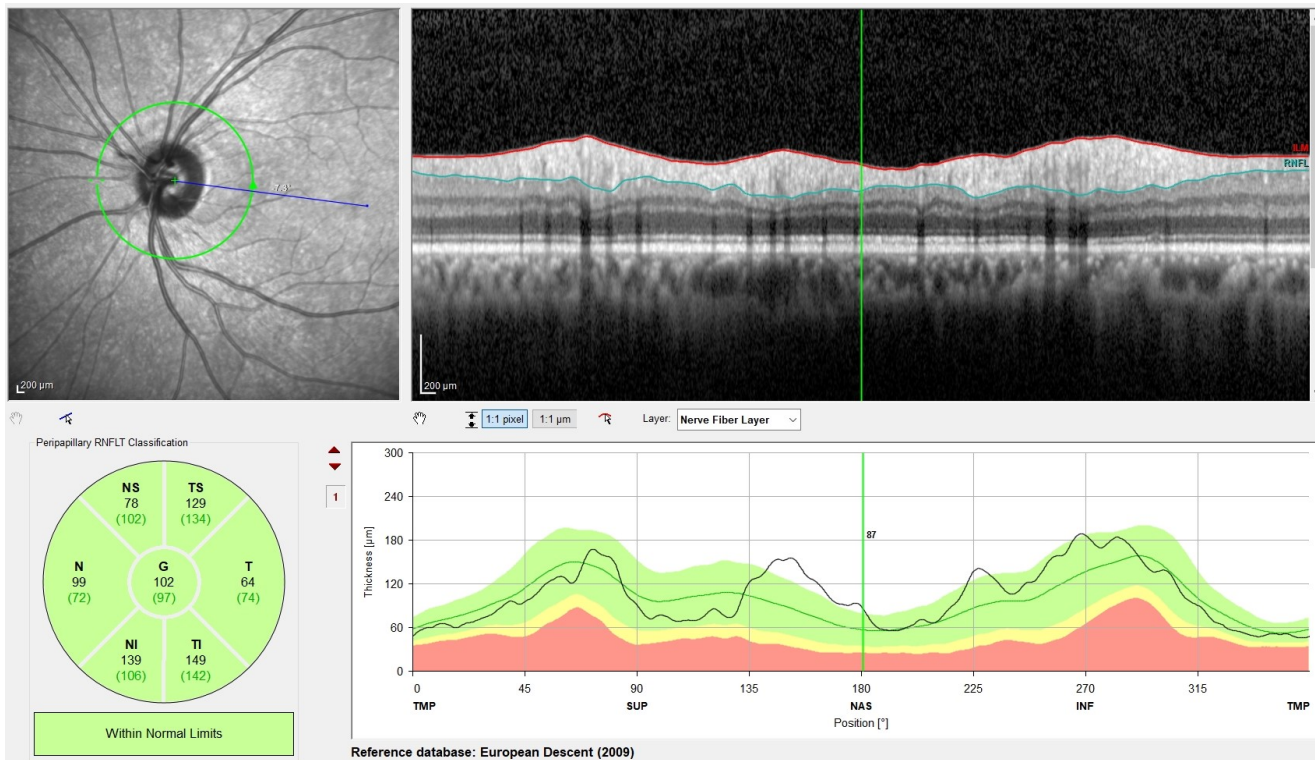


Figure 2. Optical coherence tomography of the left eye with conjunctival cyst.

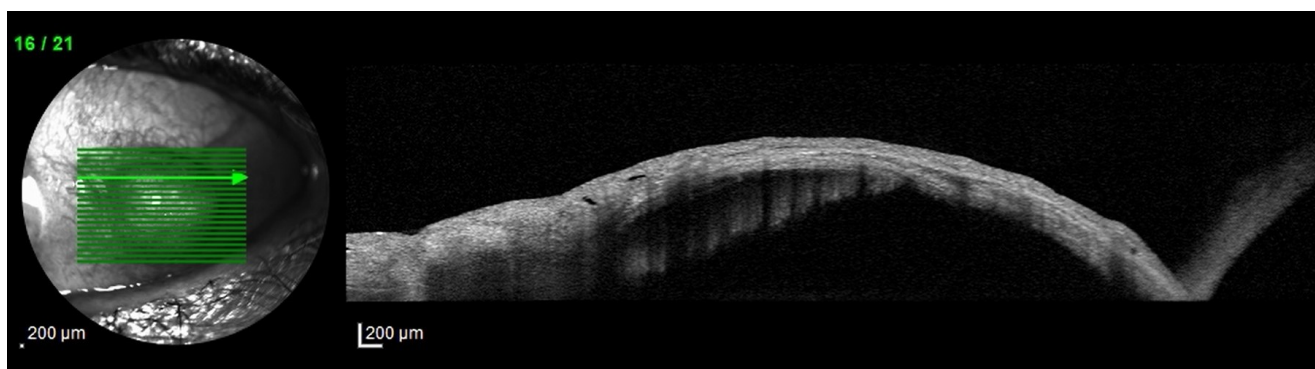


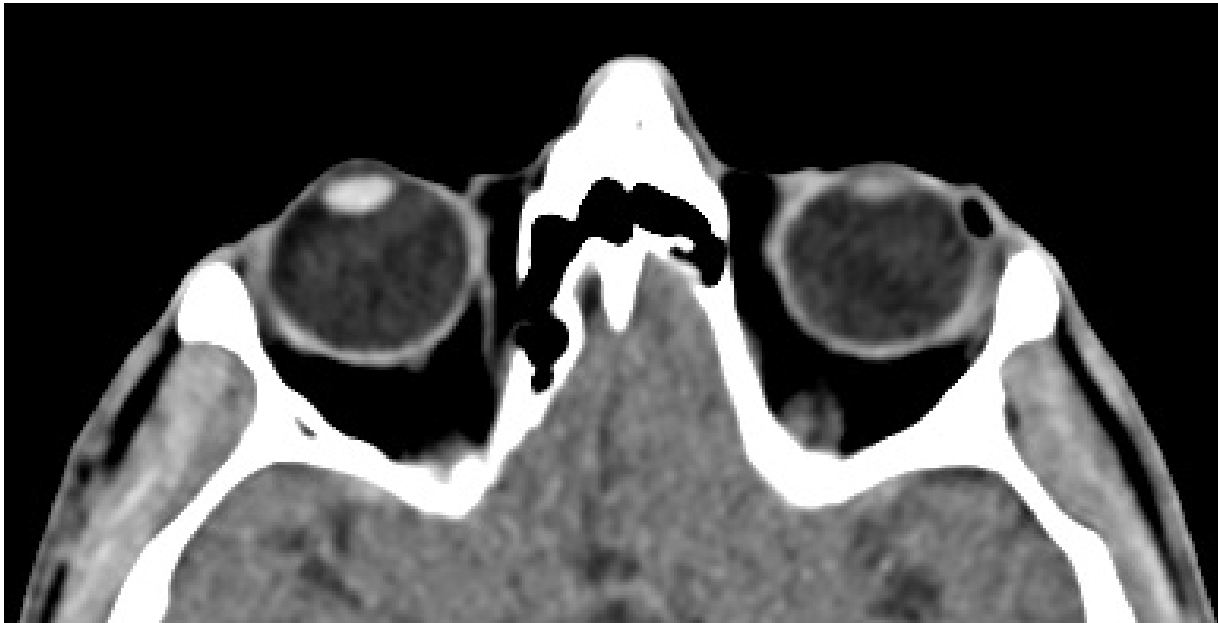
Figure 3. The anterior segment optical coherence tomography image of conjunctival cyst of the left eye of the patient.

## Discussion

Some of the open globe injuries may be occult making the diagnosis difficult at the time of examination. Even the orbital CT scans may not be helpful in rare cases with no decrease in visual acuity and normal intraocular pressures. Orbital CT scans have some findings such as loss of volume, discontinuation of globe contour, vitreous hemorrhage, intraocular air, subretinal fluid, dislocation of lens.

The most predictable ones are loss of globe volume and globe contour (1). In our case, there was neither loss of volume nor marked discontinuation of the contour, rather a wall thinning was visible.

The accuracy of CT imaging in open globe injuries varies. The specificity of CT in detection of open globe injury was reported to be 97 %, whereas the sensitivity was reported to be 51- 71 % (2).



**Figure 4.** Orbital CT scans of the patient revealing the cyst and wall thinning on the left globe of the patient.

In conclusion, in clinical suspicion of occult globe injuries CT scans may aid in diagnosis along with the images of anterior segment OCT. However, The gold standard is still a comprehensive ophthalmic examination.

## References

1. Arey ML, Mootha VV, Whittemore AR, Chason DP, Blomquist PH. Computed tomography in the diagnosis of occult open-globe injuries. *Ophthalmology*. 2007 ;114(8):1448-1452.
2. Crowell EL, et al. Accuracy of Computed Tomography Imaging Criteria in the Diagnosis of Adult Open Globe Injuries by Neuroradiology and Ophthalmology. *Acad Emerg Med*. 2017 ;24(9):1072-1079.