

# Surgical Treatment of the Semi-Lunar Fold Stromal Cysts in the Bulbar Conjunctiva in Polyclinic “SHOSHI” in Prishtina

Fitore Shoshi<sup>1</sup>, Fjolla Shoshi<sup>1</sup>, Mire Hoxha-Shoshi<sup>1</sup>, Avdyl Shoshi<sup>2</sup>, Anita Sylja Lokaj<sup>3</sup>, Flaka Shoshi<sup>4,5</sup>

<sup>1</sup>College of Medical Sciences, REZONANCA, Prishtina, Kosovo

<sup>2</sup>Polyclinic, SHOSHI, Prishtina, Kosovo

<sup>3</sup>Eye Clinic, UCCK, Prishtina, Kosovo

<sup>4</sup>University of Prishtina, Prishtina, Kosova

<sup>5</sup>International Medical School, Sapienza University of Rome, Rome, Italy

Email: shoshifitore@gmail.com

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## Abstract

**Introduction:** The conjunctiva is a thin, superficial mucosa that covers the anterior part of the eye lids and the anterior part of the sclera. The semi-lunar fold is located in the interior angle of the eye, and represents the third rudimentary eyelid. In the histological aspect, conjunctiva is composed of the epithelium and stroma. The stroma is divided into two parts: the superficial adenoid part and the inner fibrotic part. The accessory lacrimal glands are found in the stroma. **Materials and methods:** A case study of a 14 year-old male patient, who came at our clinic as a result of a 5 - 6 mm tumefaction on the bulbar conjunctiva, on the nasal part of the bulbar conjunctiva, attached to the semi-lunar fold. The patient referred that the cyst appeared 6 - 7 months ago and was constantly growing. In the beginning the patient has been treated with antibiotic and corticosteroid eye drops. However, the cyst grew constantly therefore the best solution was the surgical treatment. The surgery was performed under local anesthesia. The total excision of the cyst was performed. The removed tumefaction was then diagnosed as a cyst of the conjunctival stroma. **Purpose:** The purpose of this study is to show that the best treatment of the conjunctival epithelium tumefaction, which is not reduced in size by the local treatment with antibiotics and corticosteroids, is the surgical treatment. **Conclusion:** Every change in the conjunctiva, causing functional and aesthetic problems, is an issue that should be directed to the ophthalmologist. Such changes should be treated with medications or surgically, the patient should be followed up, to see whether or not such changes will reappear.

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## Keywords

Semi-Lunar Fold, Conjunctiva, Stromal Cyst, Surgical Treatment

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### 1. Introduction

The conjunctiva is a thin, superficial mucosa that covers the anterior part of the eye lids and the anterior part of the sclera. It is divided into two parts, the palpebral conjunctiva and the bulbar conjunctiva. The palpebral conjunctiva covers the posterior side of the eyelids and is attached closely to the tarsus [1].

The bulbar conjunctiva covers the sclera in the anterior part up to the corneal limbus. The area between the bulbar and palpebral conjunctiva forms some folds that enable the eyeball movement and increase the secreting surface of the conjunctiva. This is the so called upper and lower fornix conjunctiva. The bulbar conjunctiva is loosely attached to the Tenon's capsule. The semi-lunar fold is a fold in the shape of a half moon, found at the interior angle of the eye, which represents the third, rudimentary eyelid. Nasal to this fold, the lacrimal caruncle is placed. This caruncle is characterized by hair and glands similar to those found on the skin [2]. On the histological aspect, the conjunctiva is composed of epithelium and stroma. At the corner of the eyelid, just above the caruncle and the limbus, there is a stratified squamous epithelium. The superficial layer of the epithelium contains bean—like cells, that produce mucus which is part of the precorneal tear film.

The stroma is divided into two parts: The superficial adenoid part and the inner fibrotic part. The adenoid part is composed of the lymphatic tissue, which is created 2 - 3 months after birth, while the fibrotic part is composed of connective tissue.

The accessory lacrimal glands are found in the stroma and most of them are located on the upper fornix conjunctiva [1] [3].

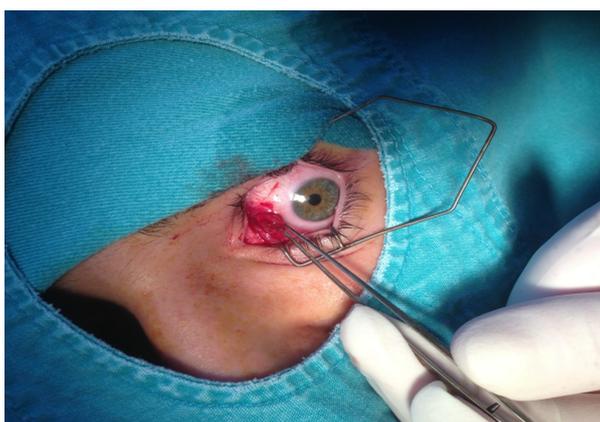
The blood vessels are branches of the eyelid arteries and have arterial anastomosis with the anterior ciliary arteries. The innervation is done by the ophthalmic nerve branches, which is part of the trigeminal branch. While the lymphatic vessels drain in the pre-auricular and sub-mandibular lymphatic nodes [1].

### 2 Materials and Methods

This is a case study of a 14 year-old male patient (**Figure 1**), who came at our clinic as a result of a 5 - 6 mm tumefaction on the bulbar conjunctiva. There was an oval tumefaction on the nasal part of the bulbar conjunctiva, attached to the semi-lunar fold (**Figure 2**). The oval tumefaction was partially moveable, and the conjunctival epithelium above the cyst was vascularized, smooth and moist. The patient referred that the cyst appeared 6 - 7 months ago and was constantly growing. In the beginning the patient has been treated with antibiotic and



**Figure 1.** The patient with the tumefaction before the operation.



**Figure 2.** Semi-lunar fold cyst removal.

corticosteroid eye drops (Dexa-Gnetamycin 6 × 1) and eye ointment Dexa-Gentamycin twice a day for 10 days. However, the cyst was enlarged constantly; therefore the best solution was the surgical treatment [4], since it started to bother the patient both esthetically and functionally, because he was not able to close the eye.

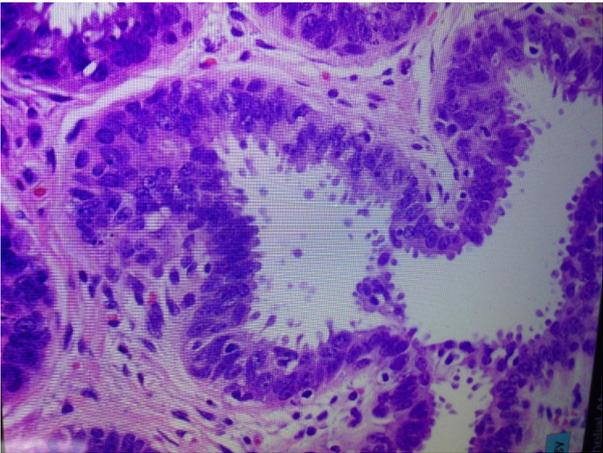
Prior to the surgery, laboratory tests were performed on the patient such as: blood count, glycemia, urea and creatinine levels, and coagulation time of the blood. After the consult with the pediatrician and the laboratory test results on the normal levels, we proceeded with the surgery. The surgery was performed under local anesthesia using 1.5 ml of local Lidocaine 2%, applied sub-conjunctival 3 mm from the semi-lunar fold.

An incision of 5 mm of the epithelium above the cyst and the total excision of the cyst were performed up to the Tenon's capsule without touching the MRM, under the semi-lunar fold, without damaging it.

The suturing was done using 6.0 Vicryl suture. The removed tumefaction was then sent for histo-pathological analysis, where it was diagnosed as a cyst of the conjunctival stroma, of irregular oval shape, 4 mm to 7 mm in size.



**Figure 3.** The removed conjunctival stroma cyst.



**Figure 4.** Histology of the cyst.



**Figure 5.** Post-operative image.

The conjunctival stroma cyst (**Figure 3, Figure 4**) had a double layer of the stratified epithelium, and the lumen was empty. On the surface were adenoid cells to be seen while in the inner part the soft fibrotic layer, no chronic inflammatory reactions we noticed.

After the surgery the patient was treated with antibiotic with corticosteroids eye drops for 10 days. The sutures were removed after one week, and neither pre-operative nor post-operative infection was present.

After the surgery (**Figure 5**) the patient was treated with antibiotic with corticosteroids eye drops for 10 days. The sutures were removed after one week, and neither pre-operative nor post-operative infection was present.

### 3. Purpose

The purpose of this study is to show that the best treatment of the conjunctival epithelium tumefaction, which is not reduced in size by the local treatment with antibiotics and corticosteroids, is the surgical treatment. After the surgery, the histopathological analysis of the removed mass should be done, to diagnose the type of the tumefaction [3] [5] [6].

### 4. Conclusion

Every change that is noticed in the conjunctiva, causing functional and aesthetic problems, is an issue that should be directed to the ophthalmologist for further evaluation and treatment. Such changes should be treated with medications or surgically [4], and the patient should be followed up, to see whether or not such changes will appear again.

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