

# Surgical Treatment of Lipodermoids: Case Report

Shoshi Flaka<sup>1\*</sup>, Hoxha-Shoshi Mire<sup>2</sup>, Shoshi Fitore<sup>2</sup>, Shoshi Fjolla<sup>2</sup>, Shoshi Avdyl<sup>3</sup>

<sup>1</sup>Department of Clinical Medicine, Faculty of Medicine, University of Prishtina, Prishtina, Republic of Kosova

<sup>2</sup>College of Medical Sciences "REZONANCA", Prishtina, Republic of Kosova

<sup>3</sup>AAB College, Prishtina, Republic of Kosova

Email: \*flakashoshi@gmail.com

**How to cite this paper:** Flaka, S., Mire, H.-S., Fitore, S., Fjolla, S. and Avdyl, S. (2020) Surgical Treatment of Lipodermoids: Case Report. *Open Journal of Ophthalmology*, 10, 1-9.  
<https://doi.org/10.4236/ojoph.2020.101001>

**Received:** November 21, 2019

**Accepted:** December 21, 2019

**Published:** December 24, 2019

Copyright © 2020 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

**Background:** Lipodermoids are abnormal epibulbar growths of the adipose tissue. A conjunctival lesion, the lipodermoid (*dermolipoma*) is usually located near the temporal fornix and is composed of adipose tissue and dense connective tissue. The overlying conjunctival epithelium is normal, and hair follicles are absent. Lipodermoids may be extensive, sometimes involving orbital tissue, lacrimal gland, and extraocular muscle. Surgical treatment is only indicated when the existing lipodermoid disturbs the patient either functionally or aesthetically. **Purpose:** The main purpose of this study is to present our experience in the surgical treatment of lipodermoids in those cases when lipodermoids cause functional and aesthetic problem to the patient. **Materials and Methods:** In our study, we have included two cases of male gender, one with bilateral lipodermoid (in both eyes) while the other with a mono lateral lipodermoid (only in one eye). The treatment was surgical, where we carefully removed the lipodermoid lesion inside palpebral fissures, to fully preserve the bulbar conjunctiva and Tenon's membrane during the removal of the conjunctival lipodermoid. Surgery was performed under local anesthesia (lidocaine 2% and adrenaline). The surgical area was set ready by using betadine 5%. **Results:** In both cases, there were neither intra-operative nor extra-operative complications and the results were positive. Also the functional and aesthetic problems were corrected. There was no recurrence encountered. **Conclusions:** In conclusion, based on the results of this study, in the rare cases of lipodermoids where surgical treatment is necessary, it is very important to perform a careful surgical intervention, in order to prevent any intra-operative injuries of the lacrimal gland and the lateral and superior rectus muscles. In general, the surgical treatment is a successful method on treating lipodermoids, in cases when they concern the patient both functionally and aesthetically.

---

## Keywords

Lipodermoids, Intra-Operative Injuries, Treatment

---

### 1. Introduction

Lipodermoids are abnormal epibulbar growths of the adipose tissue. Epibulbar dermoids are benign congenital tumors that contain choristomatous tissue (choristomas are congenital overgrowth of normal tissue in abnormal locations) [1].

Most frequent site for epibulbar dermoid is inferior-temporal part of limbus (junction between cornea and conjunctiva). Occasionally, dermoid may be present entirely within cornea or may be localised to conjunctiva [2].

A conjunctival lesion, the lipodermoid (*dermolipoma*) is usually located near the temporal fornix and is composed of adipose tissue and dense connective tissue. The overlying conjunctival epithelium is normal, and hair follicles are absent. Lipodermoids may be extensive, sometimes involving orbital tissue, lacrimal gland, and extraocular muscle. Both epibulbar limbal dermoid tumors and conjunctival lipodermoids are frequently associated with Goldenhar syndrome. In patients with Goldenhar syndrome, the lesions are accompanied by a variety of other anomalies, including ear deformities (preauricular appendages, aural fistulas, microtia), maxillary or mandibular hypoplasia (hemifacial microsomia), vertebral deformities, colobomas or notching of the eyelid, and Duane syndrome [3].

Surgical treatment is only indicated when the existing lipodermoid disturbs the patient either functionally or aesthetically. Apart from the aesthetic problems, lipodermoids also cause visual problems such as slight esotropia and astigmatism. Epibulbar dermoids require differentiated surgical therapy [4].

Adipose tissue covers the major part of the orbit and its elements. This adipose tissue is separated by thin fibrous septum and covers the eye ball, optic nerve and the external eye muscles [5] [6] [7] [8].

### 2. Purpose of the Study

The main purpose of this study is to present our experience on the surgical treatment of lipodermoids in those cases when lipodermoids cause functional and aesthetic impairment to the patient.

### 3. Materials and Methods

In our study we have included two cases of male gender, one with bilateral lipodermoid (in both eyes) while the other with a mono lateral lipodermoid (only in one eye). The treatment was surgical, where we carefully removed the lipodermoid lesion inside palpebral fissures, to fully preserve the bulbar conjunctiva and Tenon's membrane during the removal of the conjunctival lipodermoid. The surgical approach was very careful and professional so the

cikatrix would be minimal, because it is a post operative problem that might require a second surgical correction.

Prior to surgery, when it was considered that the criteria for surgical treatment were fulfilled, patients were asked to sign the consent form for the surgery.

The results in this study are published with the permission of the patients included in this case report, therefore we declare that the ethical principles of our work have been fully respected, as we were conducting this research.

### 3.1. Case 1

Male patient 60 years old, who requested a medical examination at the Diagnostic and Therapeutic Center “REZONANCA” in Prishtina, who was having functional and aesthetic problems in both eyes. The patient has noticed these epibulbar abnormal growths of the adipose tissue at a young age but they became more visible through years (**Figures 1-3**). Due to the lipodermoid the patient had visual problems, esotropia, astigmatism, red and irritated eyes.



**Figure 1.** Presence of lipodermoids in both eyes.



**Figure 2.** Lipodermoid on the right eye.



**Figure 3.** Lipodermoid on the left eye.

Prior to surgery we have obtained a very detailed patient history and we have performed a thorough ophthalmologic examination, after which we have been able to have the exact diagnosis.

Patient did not have any other complaints or concerns regarding his health condition, apart from the visual problems caused by the presence of lipodermoids in both eyes. Due to these visual difficulties, the patient has agreed to undergo surgery.

Patient was referred for complete laboratory tests (sedimentation, complete blood count, urea, creatinine, glycemic test, bleeding and clotting time, cholesterol, triglycerides, urine tests). The patient was sent also for radiological examination where CT and MRI of the orbit were performed, and also arteriography. Since all the tests resulted to be on physiological range, after consulting the cardiologist, the patient was considered eligible for the surgery.

Surgery was performed under local anesthesia (lidocaine 2% and adrenaline). The surgical area was set ready by using betadine 5%.

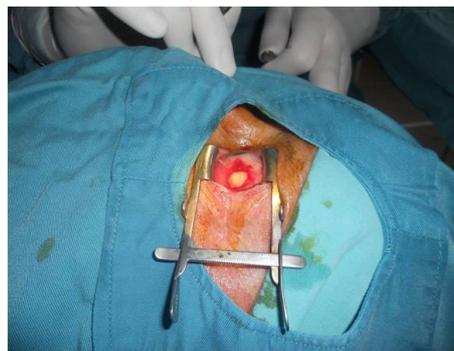
After the preparation of the operative field and the patient, subconjunctival and retrobulbar local anesthetic was administered, afterwards, we have carefully placed the blepharostat and we have performed the surgery by carefully preparing the bulbar conjunctiva and Tenon's membrane (**Figure 4**). After suitable conditions were created, we performed the excision of the adipose tissue, carefully removing only the anterior visible part of the lesion, trying to maximally save the integrity of the conjunctiva covering the lipodermoid (**Figure 5**).

We have performed the suturing in two layers with 6.0 vicryl sutures. During the surgical intervention, we have payed a lot of attention to the lacrimal gland, levator palpebral muscle, lateral rectus muscle and to the superior rectus muscle.

After the surgery, we have administered antibiotic and corticosteroid moisturizer and the eye was covered with compressive bandage until the next day. Afterwards a 7-day therapy was ordained.

In this case where we had bilateral lipodermoids, the surgery was performed in both eyes separately, once we performed the surgery on one eye, and after two weeks on the other eye (**Figures 6-8**).

#### Case 1 - During the surgery



**Figure 4.** Blapherostat placement and lipodermoid exposure.



**Figure 5.** Lipodermoid removal.

### Case 1 - After the surgery



**Figure 6.** One day after the surgery on the left eye.



**Figure 7.** One week after the surgery on the left eye.



**Figure 8.** Final picture after the surgery in both eyes.

### 3.2. Case 2

This case was a male patient 65 years old, with lipodermoid on the left eye. Similar to the first case, this patient also admitted that he has noticed this growth

from an early age, but it had only caused problems (functional and aesthetic) in the recent years, where he had a slight degree esotropia (**Figure 9**).

Considering that both criteria (functional and aesthetic impairment) were fulfilled, with the consent from the patient we performed the surgical intervention, following the same procedures as in the first case.

Prior to surgery we have obtained a very detailed patient history and we have performed a thorough ophthalmologic examination, after which we have been able to have the exact diagnosis.

Patient did not have any other complaints or concerns regarding his health condition, apart from the visual problems caused by the presence of lipodermoids on the left eye, which had caused a slight degree esotropia. Due to these visual problems, the patient has agreed to undergo surgery.

Patient was referred for complete laboratory tests (sedimentation, complete blood count, urea, creatinine, glycemic test, bleeding and clotting time, cholesterol, triglycerides, urine tests). The patient was sent also for radiological examination where CT and MRI of the orbit were performed, and also arteriography. Since all the tests resulted to be on physiological range, after consulting the cardiologist, the patient was considered eligible for the surgery.

Surgery was performed under local anesthesia (lidocaine 2% and adrenaline). The surgical area was set ready by using betadine 5%.

After the preparation of the operative field and the patient, subconjunctival and retrobulbar local anesthetic was administered, afterwards, we have carefully placed the blepharostat and we have performed the surgery on the left eye, by carefully preparing the bulbar conjunctiva and Tenon's membrane (**Figure 10**, **Figure 11**). We performed the excision of the adipose tissue, carefully removing only the anterior visible part of the lesion, trying to maximally save the integrity of the conjunctiva covering the lipodermoid (**Figure 12**).

We have performed the suturing in two layers with 6.0 vicryl sutures. During the surgical intervention, we have payed a lot of attention to the lacrimal gland,

### Case 2 - Before Surgery



**Figure 9.** Presence of lipodermoid on the left eye.



**Figure 10.** Blatherostat placement and the exposure of the lipodermoid.



**Figure 11.** Blatherostat placement and the exposure of the lipodermoid.



**Figure 12.** Lipodermoid removal on the left eye.

levator palpebral muscle, lateral rectus muscle and to the superior rectus muscle.

After the surgery, we have administered antibiotic and corticosteroid moisturizer and the eye was covered with compressive bandage until the next day (**Figure 13**). Afterwards a 7-day therapy was ordained. (**Figure 14**)

## Case 2 - After the surgery



**Figure 13.** One day after surgery.



**Figure 14.** One week after the removal of sutures.

## 4. Results

In both cases there were neither intra-operative nor extra-operative complications and the results were positive.

### 4.1. Case 1

Eye bulb had normal movement in all directions, also the movement of the eyelids was preserved in both eyes. Functional and aesthetic problems were corrected. There was no recurrence encountered.

### 4.2. Case 2

Eye bulb of the left eye had normal movement in all directions, also the movement of the eyelid was preserved. Functional and aesthetic problems were corrected. There was no recurrence encountered.

## 5. Conclusions

There were neither intra-operative nor extra-operative complications and the results were positive.

In conclusion, based on the results of this study, in the rare cases of lipodermoids where surgical treatment is necessary, it is very important to perform a careful

surgical intervention, in order to prevent any intra-operative injuries of the lacrimal gland and the lateral and superior rectus muscles.

In general, according to our experience, surgical treatment is the most successful method on treating lipodermoids, in cases when they concern the patient both functionally and aesthetically.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

### References

- [1] Epibulbar Dermoids [Internet]. Epibulbar Dermoids|National Health Portal of India. <https://www.nhp.gov.in/disease/eye-ophthalmology/-epibulbar-dermoids>
- [2] (2017) Epibulbar Dermoids: Symptoms, Diagnosis, Causes and Management [Internet]. AIMU. <https://www.aimu.us/2017/06/05/epibulbar-dermoids-symptoms-diagnosis-causes-and-management/>
- [3] Lipodermoid. <https://www.aao.org/bcscsnippetdetail.aspx?id=eed36b38-1c4b-413c-bb13-2cdf542d9e65>
- [4] Stergiopoulos, P., Link, B., Naumann, G.O.H. and Seitz, B. (2009) Solid Corneal Dermoids and Subconjunctival Lipodermoids: Impact of Differentiated Surgical Therapy on the Functional Long-Term Outcome. *Cornea*, **28**, 644-651. <https://www.ncbi.nlm.nih.gov/pubmed/19512907> <https://doi.org/10.1097/ICO.0b013e3181914305>
- [5] Robb, R.M. (1996) Astigmatic Refractive Errors Associated with Limbal Dermoids. *J Pediatr Ophthalmol Strabismus*, **33**, 241-243.
- [6] Lang, S.J., Böhringer, D. and Reinhard, T. (2014) Surgical Management of Corneal Limbal Dermoids: Retrospective Study of Different Techniques and Use of Mitomycin C. *Eye*, **28**, 857-862. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4094805/> <https://doi.org/10.1038/eye.2014.112>
- [7] Burillon, C. and Durand, L. (1997) Solid Dermoids of the Limbus and the Cornea. *Ophthalmologica*, **211**, 367-372. <https://www.ncbi.nlm.nih.gov/pubmed/9380356> <https://doi.org/10.1159/000310832>
- [8] Kanski, J.J. *Clinical Ophthalmology, A Systematic Approach*. 3rd Edition, UK.