

# Subconjunctival Fat Prolapse

SUNDARA RAJA PERUMAL<sup>1</sup>, SENTHIL KUMAR<sup>2</sup>

## ABSTRACT

Subconjunctival fat prolapse is an extremely rare condition. Confirmation of the fatty nature of this lesion and demonstration of the focal tenon capsule defect makes Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) of orbit the investigations of choice. This manuscript report a 69-year-old female, who presented with complaints of swelling in lateral aspect of both orbit, since two years. On clinical examination, there was yellowish coloured swelling in the superolateral quadrant of bilateral orbit. CT scan show herniation of intraconal fat content through the defect at the tenon capsule, intermuscular septum and thus, confirmed the nature of lesion and the diagnosis. The patient was not willing for surgical correction and preferred regular follow-ups.

**Keywords:** Computed tomography, Epibulbar mass, Intraconal fat lesion

A 69-year-old female complained of a swelling in the outer aspect of both orbit for a period of two years. She had no history of trauma, or discharge, and no difficulty in vision. Clinical examination showed well-defined yellowish mass in the lateral aspect of both orbit, lesion in the right eye measured 1.9×1.3 cm and left eye measured 2.2×1.7 cm [Table/Fig-1]. Bilateral lesions are partly compressible while applying pressure over the swelling. No evidence of tenderness or surrounding inflammation were noted. Vision was 5/6 on both eyes. Fundoscopy was not remarkable.

Axial CT image demonstrated the focal defect in tenon capsule and intermuscular septum, through which intraconal fat (-50 to -70 HU) seen herniating into the epibulbar region, in between lateral wall of globe medially and lateral rectus muscle laterally, on both sides [Table/Fig-2,3]. The patient was not willing for surgical removal of this lesion and follow-up was recommended.

Subconjunctival fat prolapse is a rare, acquired, typically bilateral yellowish mass lesion in superotemporal aspect of orbit. This lesion

is characterised by herniation of the intraconal fat into epibulbar region through the defect in tenon capsule and intermuscular septum. Defects are generally due to ageing process, trauma and due to surgery [1-3]. Subconjunctival fat prolapse is more common in obese men between the 7<sup>th</sup> and 8<sup>th</sup> decades of life [4]. Both CT and MRI demonstrate the fatty nature of lesion and continuity with intraconal fat. It can also demonstrate the focal defect in tenon capsule and intermuscular septum. The treatment of this lesion consists of transconjunctival excision and closure of the defect, a simple and effective surgical procedure. The rate of recurrence after transconjunctival excision is reported to be approximately 9% [5].

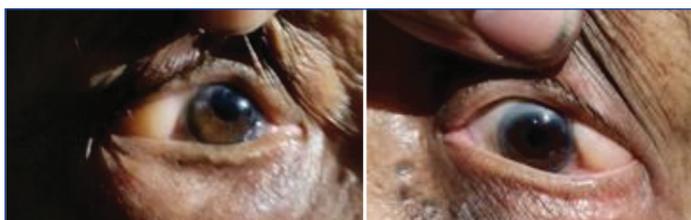
Differential diagnosis of subconjunctival fat prolapse are conjunctival dermolipoma, lymphoma, epidermoid cyst, or lacrimal gland prolapse [6]. However, the main differential diagnosis is conjunctival dermolipoma, which is a congenital benign lesion, usually present at birth, that commonly affects young women, the mean age of such patients being 22 years [7]. Conjunctival dermolipoma is typically unilateral, immobile, and non compressible. On CT and MRI, conjunctival dermolipoma presents as a crescent-shaped fat containing mass lesion in the temporal aspect of the orbit, not in communication with the intraconal fat [7].

Medhi G et al., reported a similar case of subconjunctival fat prolapse in a 70-year-old obese man. He presented with a painless, bilateral, soft, yellowish, oval shaped, non pulsatile mass at the lateral canthal area. CT imaging shows fat containing lesion seen herniating into the epibulbar region as mentioned in the present case [8]. Skorin L Jr and Rink C reported a similar case in an 80-year-old man, initially went for cataract check-up and diagnosed with subconjunctival fat prolapse in both orbits and patient underwent excision of these lesions [9].

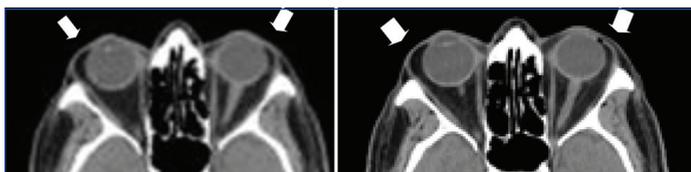
There is a retrospective study on 46 patients (33 males, 13 females) with surgically and pathologically proven subconjunctival fat prolapse. However, cross-sectional imaging (CT/MRI) was available only in six patients [6]. Out of 46 patients, 45 had the lesions in superatemporal quadrant of orbit. Removal of the herniated fat was done in 40 patients. Despite being a rare condition and benign nature of this lesion, simple transconjunctival excision is preferred simple, safe and definite treatment of this condition.

## CONCLUSION(S)

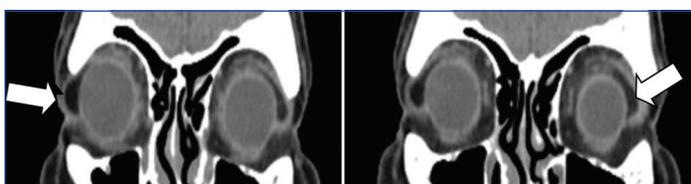
Recommended treatment for subconjunctival fat prolapse is surgical removal of herniated fat and repair of tenon capsule, intermuscular septal defect. However, radiological imaging helps to identify and



**[Table/Fig-1]:** Yellowish well-defined epibulbar mass lesion in the lateral canthal region.



**[Table/Fig-2]:** Axial CT images show subconjunctival fat prolapse, in between the lateral wall of eye ball and lateral rectus muscle.



**[Table/Fig-3]:** Shows subconjunctival fat prolapse in the coronal images.

confirm the benign nature of this lesion and alleviate the patients fear of tumour in the orbit. This lesion can be safely followed-up without any surgical intervention in asymptomatic patients and patients who are not willing for surgery.

## REFERENCES

- [1] Tandon A, Misra S, Misra N, Beedkar A. Orbital fat prolapse: A rare case report Pravara Med Rev. 2016 8(3):23-25.
- [2] Kim YD, Goldber Kim YD, Goldberg RA. Orbital fat prolapse and Dermolipoma: Two distinct entities. Korean J Ophthalmol. 1994;8:42-43.
- [3] Otava I, Kyn N. A new surgical technique for management of orbital fat prolapse. Am J Ophthalmol. 2001;131:267-69.
- [4] Schmack I, Patel RM, Folpe AL. Subconjunctival herniated orbital fat: A benign adipocytic lesion that may mimic pleomorphic lipoma and atypical lipomatous tumor. Am J Surg Pathol. 2007;31:193-98.
- [5] Siban M, Weijtens O, van den Bosch W, Paridaens D. Efficacy of transconjunctival excision of orbital fat prolapse: A long-term follow-up study. Acta Ophthalmol. 2014;92:291-93.
- [6] Wang X, Yan J. Subconjunctival orbital fat prolapse: An unsuspecting rare lesion. J Craniofac Surg. 2015;26:e92-e94.
- [7] McNab AA, Wright JE, Caswell AG. Clinical features and surgical management of dermolipomas. Aust N Z J Ophthalmol. 1990;18:159-62.
- [8] Medhi G, Sharma BK, Khaldi E. Subconjunctival fat prolapsed: What radiologists need to know? J Clin Diagn Res. 2017;11(7):TD01-TD02.
- [9] Skorin L Jr, Rink C. Diagnosis and excision of subconjunctival herniation of orbital fat. Optom Vis Sci. 2014; 91(9):e236-40.

### PARTICULARS OF CONTRIBUTORS:

1. Professor, Department of Radiology, SRM Medical College and Research Centre, Chennai, Tamil Nadu, India.
2. Professor and Head, Department of Radiology, SRM Medical College and Research Centre, Chennai, Tamil Nadu, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Sundara Raja Perumal  
B-43, TVS Green Acre, Phase IV, 4<sup>th</sup> Main Road, Kolapakkam, Vandalur,  
Chennai, Tamil Nadu, India.  
E-mail: majsundp@srmist.edu.in

### PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Jul 19, 2022
- Manual Googling: Sep 29, 2022
- iThenticate Software: Oct 03, 2022 (6%)

### ETYMOLOGY: Author Origin

### AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Jul 16, 2022**

Date of Peer Review: **Sep 11, 2022**

Date of Acceptance: **Oct 04, 2022**

Date of Publishing: **Jan 01, 2023**