

Unilateral Pre-septal Cellulitis Post Strabismus Surgery: case report and literature review

Al-Habsi Asaad ,Al-Farsi Nouf
Oman Medical Specialty Board



- 3 years
- Operated 1st time for BMR recession for non-accommodative esotropia.
- ***Developed consecutive exotropia post –op.***



OCT 2022



June 2023



History



12th June



Bilateral MR advancement



13th June

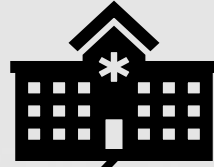
1 day post Op presented with :

- Fever, irritability
- Right upper lid swelling .
- Nasal bloody discharge ?

+/- Mild cough during admission without upper Respiratory tract infection .



OCT 2022



June 2023



Examination

Right eye upper lid swelling ,
Soft , Tender , Pain with eye
movement .
- Eye examination not
suggestive of orbital cellulitis.



Picture 1. Day 1 Post OP.



OCT 2022



June 2023



Diagnosis

Right eye Pre-septal cellulitis
post bilateral MR advancement



Picture 1. Day 1 Post OP.



OCT 2022



June 2023



Treatment

Eye Swab culture = No Growth



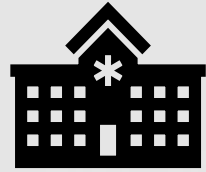
Outpatient

- Bed elevation
- Cold compressors
- Oral Augmentin
- Oral Ibuprofen
- Topical Fusidic acid
- Daily Follow up
- CT orbits if no improvement.





OCT 2022



June 2023

Daily Follow up



Picture 2. Day 2 Post OP.

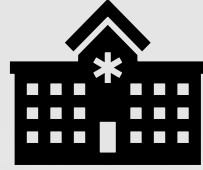


Picture 3. Day 3 Post OP.



OCT 2022

Daily Follow up



June 2023



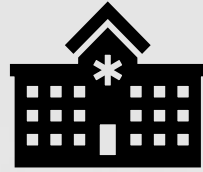
Picture 4. Day 4 Post OP.



Picture 5. Day 6 Post OP.



OCT 2022



June 2023

Daily Follow up

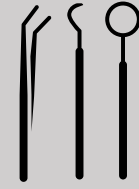


Picture 6. Day 7 Post OP.



Picture 7. off Antibiotics.

Review of Surgical Steps



On Review of the Surgical Steps ;uncomplicated and all done as usual.

- Fat prolapse noted in the left eye only (non-affected eye) .





OCT 2022



June 2023



June 2023



July 2023

- Recovered completely with oral medical treatment for a course of 7 days .
- Eye swab culture showed no growth .
- 1 month eye exam showed aligned eyes with small angle left eye esotropia 10-12 PD .
- 2 months eye exam showed orthoptic eyes with normal anterior segment and adnexal exam .

How common?

Major Article

Postoperative infection following strabismus surgery: case series and increased incidence in a single referral center

Robert J. House, MD,^a Jill C. Rotruck, MD,^b Laura B. Enyedi, MD,^a David K. Wallace, MD, MPH,^c Ezzeldin Saleh, MD,^d and Sharon F. Freedman, MD^a

General: Pre-septal/ Orbital cellulitis is a **rare complications post strabismus** : incident rate of 1 in 1100.

Large Study : incident rate of 0.14% (13 out of 7268 cases), 85% of them are under 18 years old and 38% of them are pre-septal cellulitis.

AAPOS Survey:

- Incident is 1 in 32 years of practice.
- Higher incidence of post-strabismus surgery infection in children compared to adults

- Unilateral with a few very rare bilateral cases and most of them having systemic infection.
- 1st reported case of pre-septal cellulitis post strabismus surgery in our Region (Oman and Gulf countries) .

Etiology

Outcome of Treated Orbital Cellulitis in a Tertiary Eye Care Center in the Middle East

Intiaz A. Ch

Fahad Al-An

DOI: <https://>

ORIGINAL ARTICLE

Preseptal and Orbital Cellulitis: A 10-Year Review of Hospitalized Patients

I-Ting Liu, Shu-Ching Kao, An-Guor Wang, Chieh-Chih Tsai, Chih-Kai Liang, Wen-Ming Hsu*

Department of Ophthalmology, Taipei Veterans General Hospital and National Yang-Ming University School of Medicine, Taipei, Taiwan, R.O.C.

- Pre-septal vs orbital cellulitis?
- Pre-septal cellulitis cases are less frequently reported ,this could be due to:
 - Milder infection presentation which is treated in outpatient.
 - It is even more rare than the orbital cellulitis.

Causative organism:

1st most common is S. Aureus (MSSA, MRSA)

2nd most common is Group A streptococcus.

Not all cases got culture positive, especially pre-septal cases.

Etiology

2nd infection to sinusitis.

A child with bilateral orbital cellulitis one day after strabismus surgery

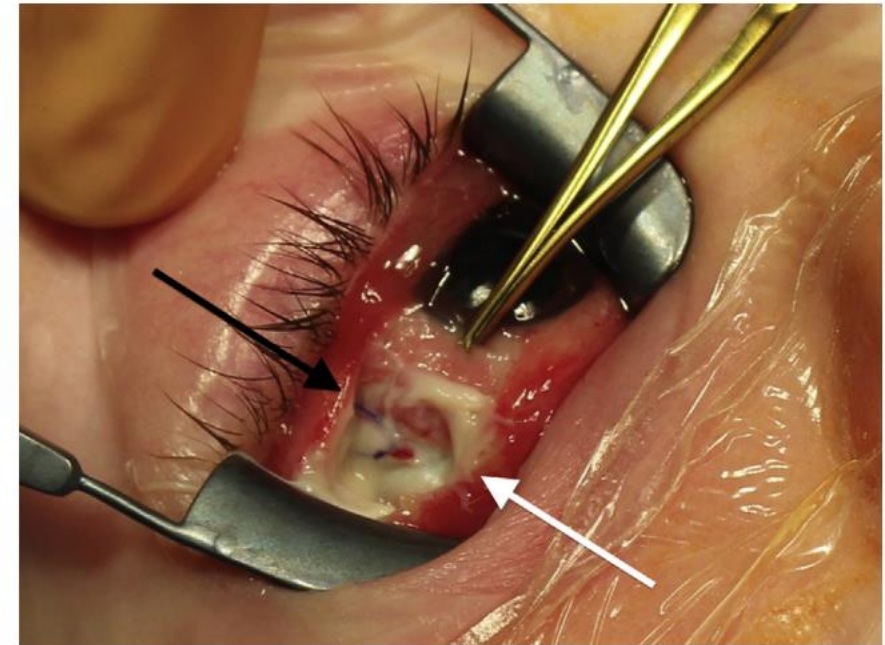
Basheikh A, Superstein R (McGill Univ, Montreal, Quebec, Canada;
The Montreal Children's Hosp, Quebec, Canada)
J AAPOS 13:488-490, 2009

Orbital cellulitis is a rare complication of strabismus surgery. We report a case of a 4-year-old boy with bilateral orbital cellulitis after uneventful surgery to correct esotropia. **Concomitant sinusitis** was the likely source of infection. To our knowledge, this is the first case of bilateral orbital cellulitis following strabismus surgery.

Etiology

A child with rapidly progressive necrotizing group a streptococcal Tenon's capsule infection one day after strabismus surgery

Gary L. Yau, MD, Daniel Warder, MD, FRCSC,
James P. Farmer, MD, FRCSC,
Todd Urton, MD, FRCSC,
and Yi Ning J. Strube, MD, FRCSC



Etiology

Bacteremia.



International Journal of Pediatric Otorhinolaryngology

journal homepage: www.elsevier.com/locate/ijporl



Case report

Bilateral orbital preseptal cellulitis after combined adenotonsillectomy and strabismus surgery—Case report and pathogenetic hypothesis

E. Muzzi ^{a,*}, F. Parentin ^b, G. Pelos ^a, D.L. Grasso ^a, L. Lora ^a, F. Trabalzini ^c, S. Pensiero ^b, E. Orzan ^a

These procedures might benefit from prophylactic systemic antibiotic administration to avoid infectious complications.

10TH EVOLVING PRACTICE OF OPHTHALMOLOGY
MIDDLE EAST CONFERENCE

Etiology

Irksome Preseptal Cellulitis Following Squint Surgery- A Case Report

Vidhya C*, Prerana Tripathi and Tarika Perikal

Pediatric Ophthalmology and Strabismus Department, Sankara Eye Hospitals, India

***Corresponding Author:** Vidhya C, Pediatric Ophthalmology and Strabismus Department, Sankara Eye Hospitals, India.

Received: May 02, 2020

Published: May 18, 2020

© All rights are reserved by Vid

- Suture contamination.
- Post-operative environment.
- Compliance with medications.

2 reported cases

Orbital cellulitis after strabismus surgery

• Letter to the Editor •

Unilateral orbital cellulitis after bilateral strabismus correction: a rare complication after strabismus surgery

Gui-Ou Zhang, Na-Min Li, Jian Zhou, Dan Hu, Yu-Sheng Wang, Chang-Mei Guo

Hygiene as direct inculcation of the operative site

Etiology

Exposure to a parent with beta hemolytic A S. pyogen pharyngitis.



Rapid onset of orbital cellulitis after uncomplicated strabismus surgery

David Somsen, MD,^{a,b} and Gena Heidary, MD, PhD^{c,d}

Clinical Presentation

- **Timing:** within days to weeks with post-strabismus.
 - The average time was **7.2 days** in one large review, and **2.8 days** in another review.
 - This patient presented immediately day 1 post operative.
 - Early (1 day) are more serious infections like beta-a-hemo S pyogen and abscess formation
- **Symptoms and signs:**
 - conjunctival congestion
 - Eyelid erythema and swelling
 - Bulging of the muscle insertion
 - Discharge, and eye pain

What happen to this patient

- Secondary to unconfirmed upper respiratory infection pre-operatively.
- ?Micro fat prolapse
- Repeated strabismus surgery.



Pre-operative prophylaxis

- Povidone 5 % in the fornix is supported by evidence it can reduce the infection rate to 10% and it was used in this patient .
- Antibiotic -steroids ointment post-op and pre-op antibiotics are not proven by studies to prevent or reduce the infection.

Major Article

Postoperative infection following strabismus surgery: case series and increased incidence in a single referral center

Robert J. House, MD,^a Jill C. Rotruck, MD,^b Laura B. Enyedi, MD,^a David K. Wallace, MD, MPH,^c Ezzeldin Saleh, MD,^d and Sharon F. Freedman, MD^a

Management

- Most of them responded well to medical treatment with few cases were admitted in the hospital for intravenous antibiotics and some progressed to orbital cellulitis and needed a drainage.
- Identifying and Treating the Risk factors pre-op is a very important measure to prevent post op infection.
- Use of aggressive treatment to manage post strabismus surgery infection can give a good outcome even though it is pre-septal cellulitis to avoid vision-life threatening complications.



References

1. A child with bilateral orbital cellulitis one day after strabismus surgery Basheikh A, Superstein R (McGill Univ, Montreal, Quebec, Canada;The Montreal Children's Hosp, Quebec, Canada) J AAPOS 13:488-490, 2009.
2. Postoperative infection following strabismus surgery: case series and increased incidence in a single referral center, House et al, J AAPOS 2019.
3. A child with rapidly progressive necrotizing group a streptococcal Tenon's capsule infection one day after strabismus surgery, Yau et al, J AAPOS, Volume 19 Number 5 / October 2015.
4. Rapid onset of orbital cellulitis after uncomplicated strabismus surgery David Somsen, MD, Gena Heidary, MD, PhD, J AAPOS , 2019.
5. Bilateral orbital preseptal cellulitis after combined adenotonsillectomy and strabismus surgery—Case report and pathogenetic hypothesis, E. Muzzi et al. / International Journal of Pediatric Otorhinolaryngology 77 (2013).
6. Irritating Preseptal Cellulitis Following Squint Surgery- A Case Report". Vidhya C., et al Acta Scientific Ophthalmology 3.6 (2020): 10-12.
7. An unusual complication after strabismus surgery ,Hong Kong Med J Vol 15 No 4 August 2009.
8. Unilateral orbital cellulitis after bilateral strabismus correction: a rare complication after strabismus surgery, Gui-Ou Zhang et al , Int J Ophthalmol, Vol. 14, No. 10, Oct.18, 2021.
9. Orbital cellulitis and multiple abscess formation after strabismus surgery, Mikel Mikhail et al , CANadian J OPHTHALMOL—VOL. 51, NO. 2, APRIL 2016.
10. Bilateral Orbital Abscesses After Strabismus Surgery , Elona Dhrami-Gavazi et al , Ophthal Plast Reconstr Surg, Vol. XX, No. XX, 2014