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Pediatric trabs Friend or Foe

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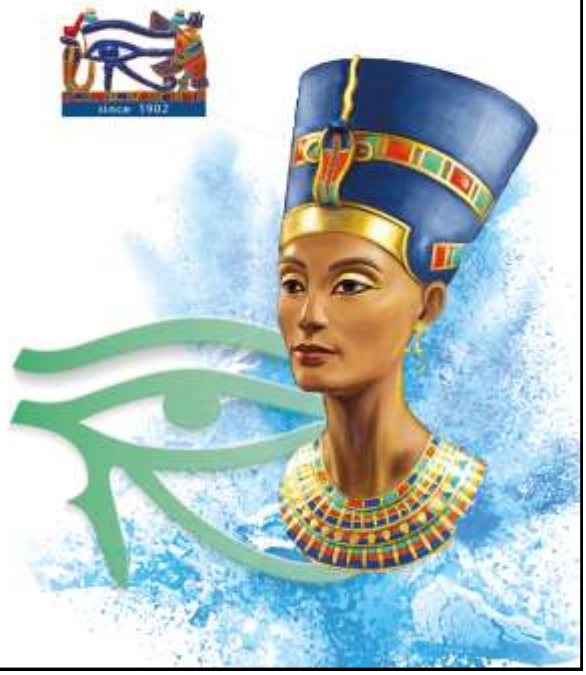
Lecturer Kasr Alaini



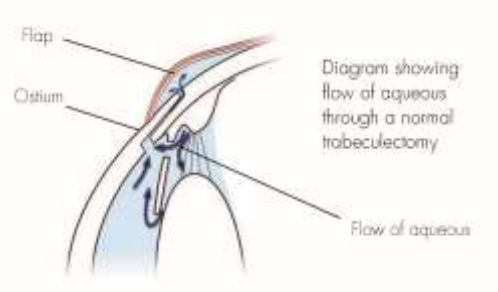
Pediatric Trabeculectomy

Trabeculectomy

- I am 55 years old
- I am the gold standard for filteration surgery

~~Trabeculectomy~~ → Trabeculectomy + MMC

- Aquaeous outflow pathway
- Normal wound healing cascade
- Closure.
- Modulation is needed



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Pediatric Trabeculectomy

- Trabeculectomy provides satisfactory and sustainable success (65%-80%)
- The gold-standard approach for eyes that have undergone unsuccessful angle surgery

Trabeculectomy With Mitomycin C Versus Ahmed Glaucoma Implant With Mitomycin C for Treatment of Pediatric Aphakic Glaucoma

- (J Glaucoma 2007;16:631–636)
- Results: Complete and qualified success rates were 33.3% and 40% in T+MMC group versus 20% and 66.7% in AGI+MMC group, respectively (P=0.36). Mean follow-up was 14.8 and 13.1 months and complication rates were 40% and 26.7% (P=0.44), respectively.
- Conclusions: T+MMC and AGI+MMC are comparable in terms of success rate and complications in pediatric aphakic glaucoma

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Pediatric Glaucoma: Review of recent literature

Annette Giangiacomo, MD and Allen Beck, MD

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Abstract

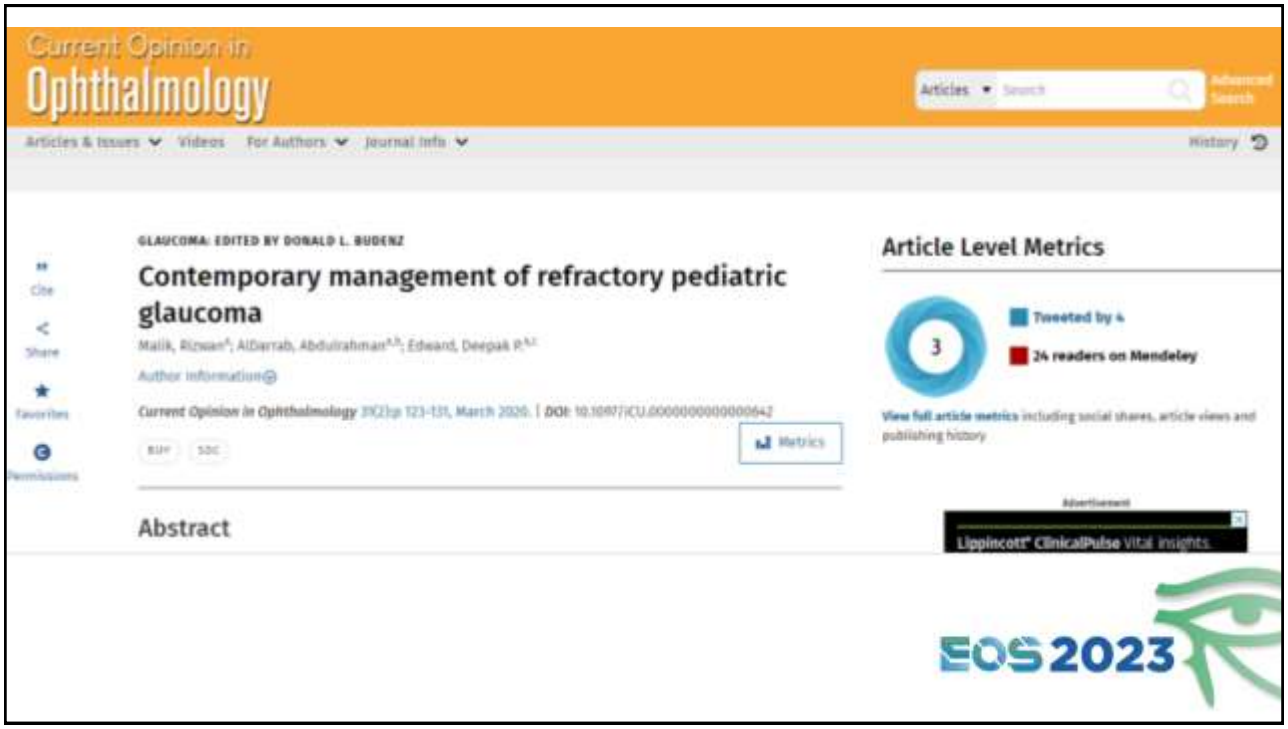
Go to: •

Purpose of review

Conclusion

Go to: •

In conclusion, the use of iCare to measure IOP will likely continue to be important in the management of pediatric patients since it is associated with increased success of obtaining a measurement in this population. In addition, new data from IATS shows the risk of developing glaucoma at 5 years after unilateral pediatric cataract surgery is similar whether refractive error is managed with intraocular lens placement at the time of surgery or with leaving the patient aphakic and using a postoperative contact lens. Further, trabeculotomy, trabeculectomy and Ahmed implantation continue to hold central roles in managing surgical glaucoma as their efficacy continues to be supported.



Conclusion

- Trabeculectomy remains the gold-standard approach for eyes with failed angle surgery in phakic eyes, carrying a success rate of 65% to over 80% at 5 years

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ABSTRACT | VOLUME 25, ISSUE 4, E17, AUGUST 2021

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Subconjunctival versus combined subconjunctival and subscleral flap mitomycin C in pediatric trabeculectomy: a randomized clinical study

Ahmed Elansary • Hala Elhilali • Ghada Gawdat • Yasmeen El Sayed

DOI: https://doi.org/10.1016/j.jaapos.2021.08.065

Article info

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To compare the safety and efficacy of trabeculectomy augmented by subconjunctival application of mitomycin C (MMC) vs combined subconjunctival and subscleral flap MMC application in primary congenital glaucoma (PCG).

Assessment Of Macular Edema After Pediatric Cataract And Intraocular Lens Implantation Surgery Using Handheld Spectral Domain Optical Coherence Tomography

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INTRODUCTION

This study aims to assess the incidence of macular edema after pediatric cataract and intraocular lens surgery using the handheld spectral domain optical coherence tomography (SD-OCT).

METHODS

This prospective, randomized, comparative, interventional study included 59 eyes of 34 children aged 1 to 5 years, scheduled for irrigation/aspiration (I/A) and intraocular lens(IOL)implantation between April 2018 and December 2019 . They were randomly divided into 2 groups: Group A (28 eyes), underwent posterior capsulotomy and anterior vitrectomy via the anterior/limbal approach and Group B (31 eyes), underwent posterior capsulotomy and anterior vitrectomy via a pars plicata/pars plana approach. Handheld SD- OCT examinations were done for all eyes at 2, 6 weeks, 3 and 6 months postoperatively. SD-OCT was performed on 180 eyes of normal children less than 5 years to be used as control. The mean central foveal thickness (CFT) and central subfield thickness (CST) of both groups were compared with the control.

RESULTS

The mean CFT and CST in the control group were 176.70 microns ± 17.30 and 230.82 microns ± 21.46 respectively. The CFT in group B was significantly higher than group A at 1st, 2nd and 3rd FU visits. (P value 0.015, 0.015 and 0.027 respectively). The CST of Group B was significantly higher than CST of normal controls in all FU visits. (P value 0.016, 0.006, 0.024, 0.041 respectively). However, the difference did not exceed 9% and was, therefore, not considered clinically relevant. The mean CFT and CST within each group was compared at the successive FU visits. No statistically significant change of the mean CFT and CST was documented over time in Group A (P value 0.099 and 0.196 respectively) and Group B (P value 0.154 and 0.887 respectively) .

	Group A Mean (Range)	Group B Mean (Range)	P value
CFT (2w)	173.37±18.46 (144-209)	188.95±23.12 (154-256)	0.015
CFT (6w)	169.26±20.39 (144-228)	182.64±16.05 (160-216)	0.015
CFT(3m)	172.75±15.74 (144-208)	183.36±14.19 (162-216)	0.027
CFT(6m)	175.58±17.58 (150-230)	182.00±14.46 (162-212)	0.201

	Group B Mean (Range)	Normal controls Mean (Range)	P value
CST (2w)	252.88±23.49 (216-282)	230.82±21.46 (179-293)	0.016
CST (6w)	252.00±21.19 (212-278)	230.82±21.46 (179-293)	0.006
CST (3m)	246.63±25.95 (212-303)	230.82±21.46 (179-293)	0.024
CST (6m)	244.75±20.33 (214-278)	230.82±21.46 (179-293)	0.041

Figure 2: Comparison between Group B and normal controls regarding CST

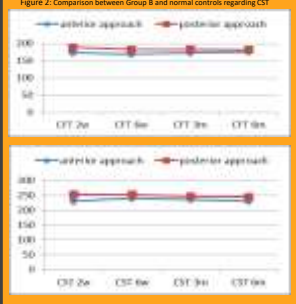

Figure 3,4 : mean CFT and CST in both groups over the whole FU .

No financial disclosure

Figure 5: Cross line OCT picture showing CFT

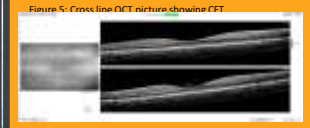

Figure 6: Retinal map OCT picture of same eye in fig 5 showing CST .

CONCLUSION

The incidence of macular edema after pediatric cataract surgery is negligible in both limbal and pars plicata techniques.

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1-Lim Z, Rubab S, Chan YH, Levin AV. Management and outcomes of cataract in children: the Toronto experience. J AAPOS. 2012, 6(3):249-54.
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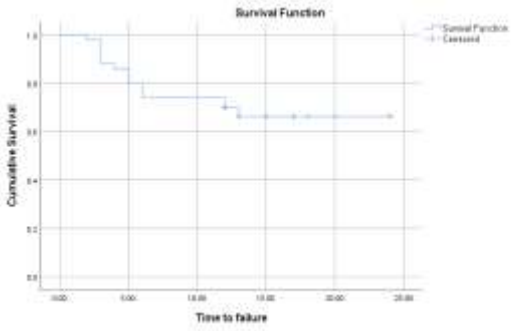
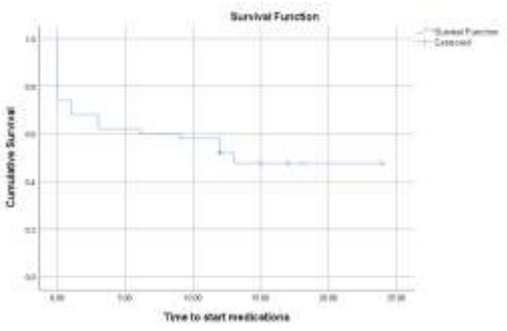
At 12 months, complete success was 54 % and qualified success was 70 %.





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Complications of trabeculectomy

- ***Peri- Operative Complications***
- **Conjunctival tear**
- **Conjunctival, scleral and iris bleeding**
- **Scleral flap damage**
- **Suprachoroidal haemorrhage**
- **Decompression retinopathy**
- **Vitreous loss**

- ***Postoperative Complications***
- **Wipe- Out' of Visual Field**
- **Malignant Glaucoma/Aqueous Misdirection**
- **Cataract formation**
- **Blebitis and Endophthalmitis**
- **Bleb Leak**
- **Encapsulated Bleb (Tenon Cyst)**
- **Hypotony**
- **Bleb Dysethesia**
- **Failing or failed blebs:**

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Barriers in pediatric trabeculectomy

- Thick Tenon's capsule.
- Rapid wound healing response.
- Lower scleral rigidity.
- Large buphthalmic eye with thin sclera.
- Conjunctival scarring from previous ocular surgery.
- lack of cooperation with examination and with the administration of drops in the postoperative period.

Pediatric trabeculectomy

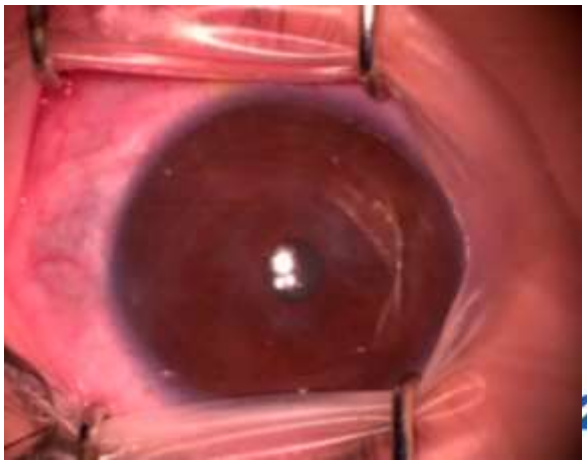
The ninth World Glaucoma Association's consensus has strongly advised against performing trabeculectomy as a primary procedure in pediatric glaucoma.

Pediatric trabeculectomy

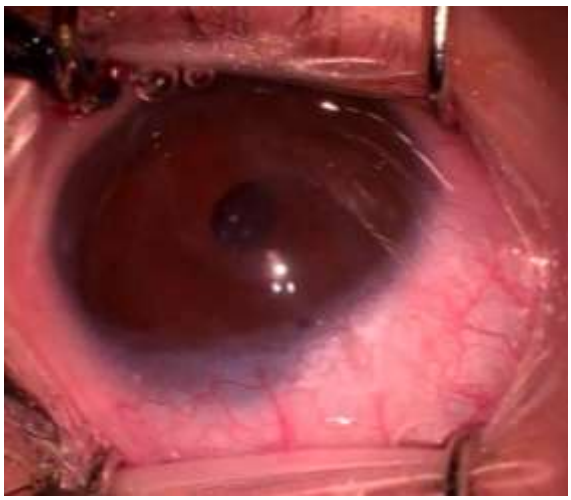
How to make it FRIEND ??

Speculum

- large



Where to start



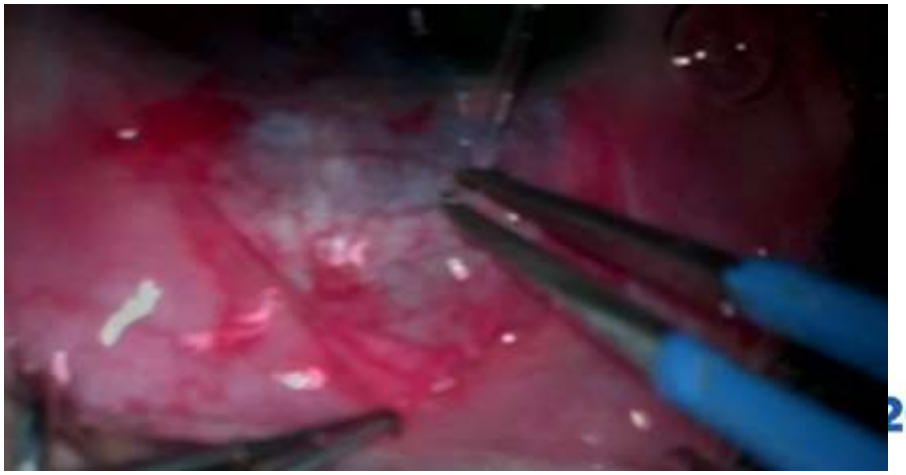
Tractional suture

- clear cornea, good long bite

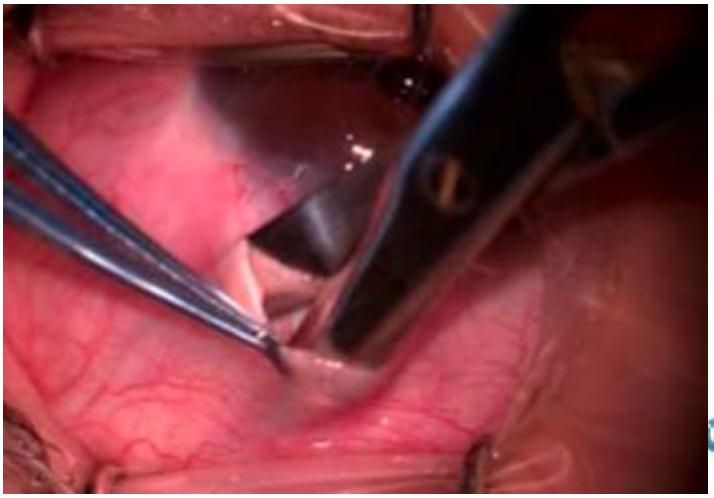
Conjunctival opening

- Release

Diathermy



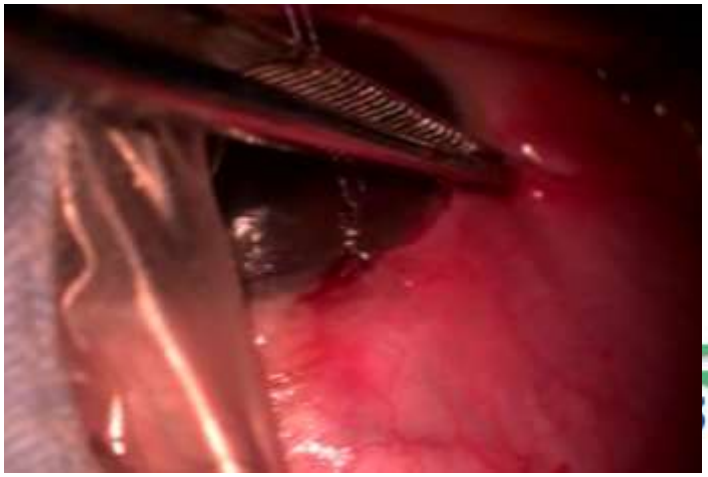
Posterior dissection



Flap dissection

Mitomycin application

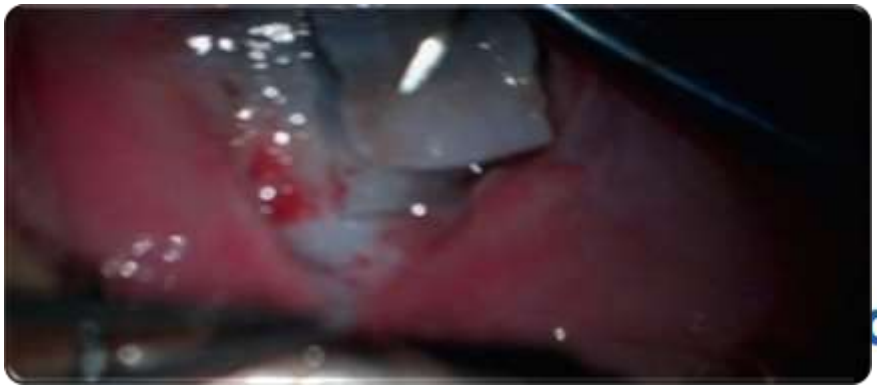
- نيم الconj



Thorough wash

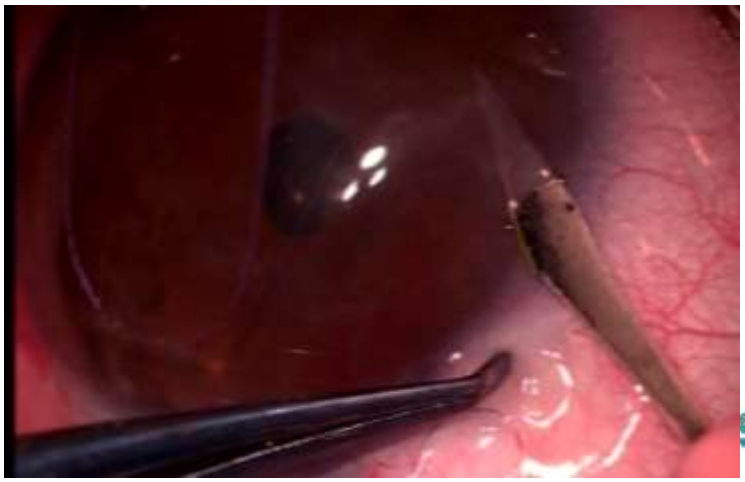
Preplaced suture

- hypotony duration

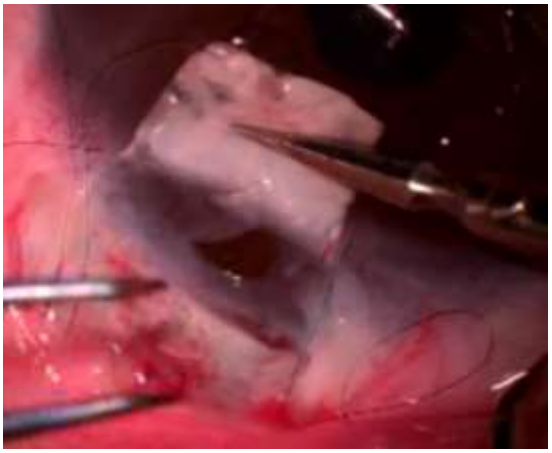


Release traction.

Paracentesis.

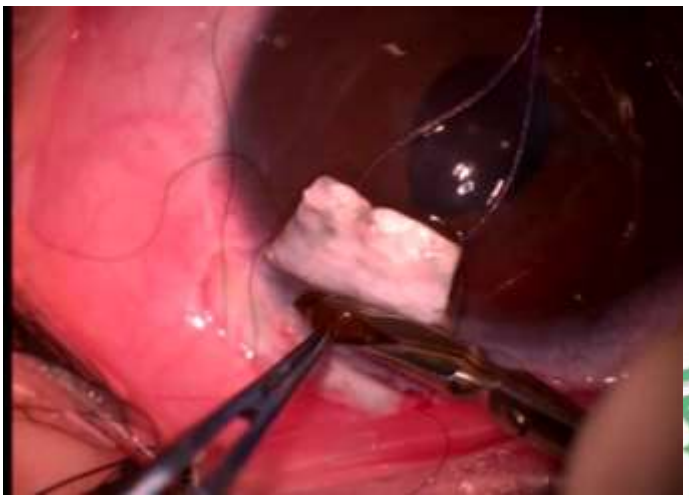


Block excision



PI

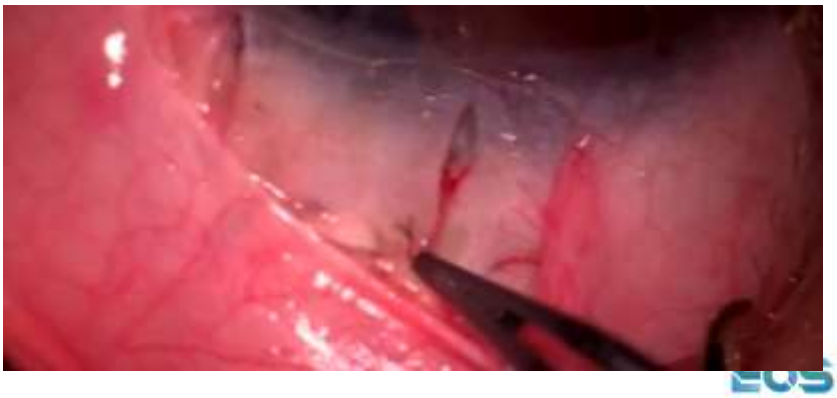
- Mc-Pherson



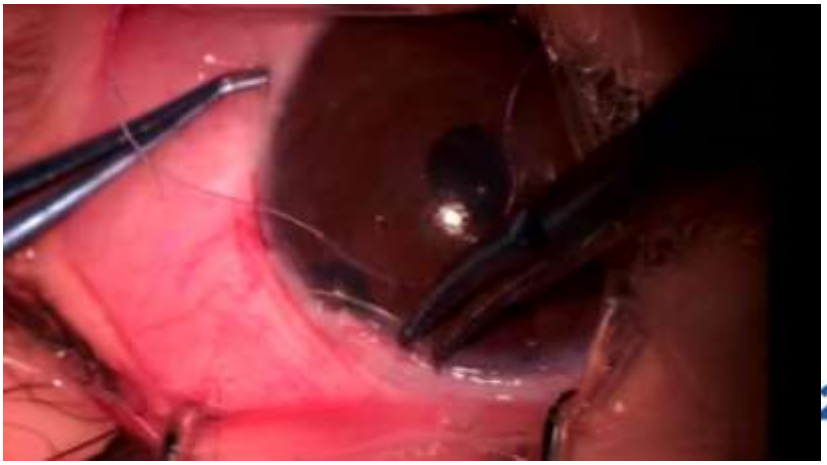
Closure of flap

- Paracentesis

Embed sutures



Water tight conjunctival closure



Atropine and diprofos


THANK YOU