CASE 6

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WSPOS

World Society of Paediatric Ophthalmology and Strabismus

- A 42 year old woman presented with binocular diplopia and right eye exotropia since one day after ENT surgery

- PMH: chronic sinusitis, postop day 1 intranasal ethmoidectomy surgery for sinusitis

- Past ocular history: unremarkable

EXAMINATION

- VA sc 20/25
  20/20

- Dynamic refraction : OD +0,50 sph
  OS +0,25 sph
  Add +1,00 (J1)

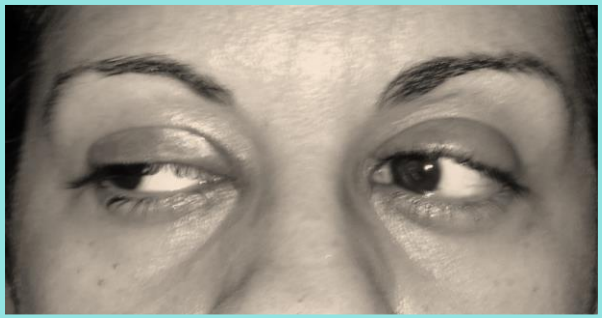
- Pupillary reflexes were normal

- IOP: 13mmHg OU

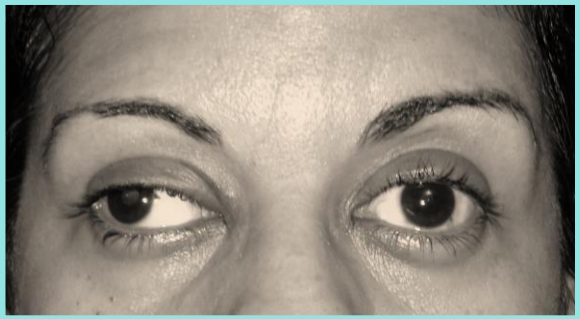
- Slit lamp and fundus exam: unremarkable

OCULAR MOTILITY

- Right eye exotropia with marked adduction limitation



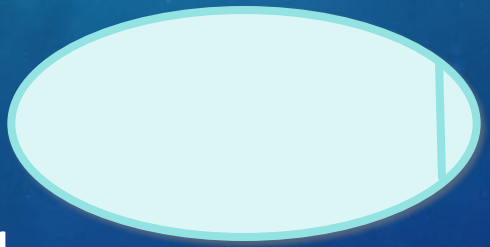
OT



XT 40Δ

XT ˜90Δ

- Ocular rotation:



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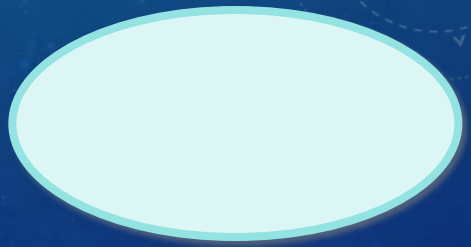
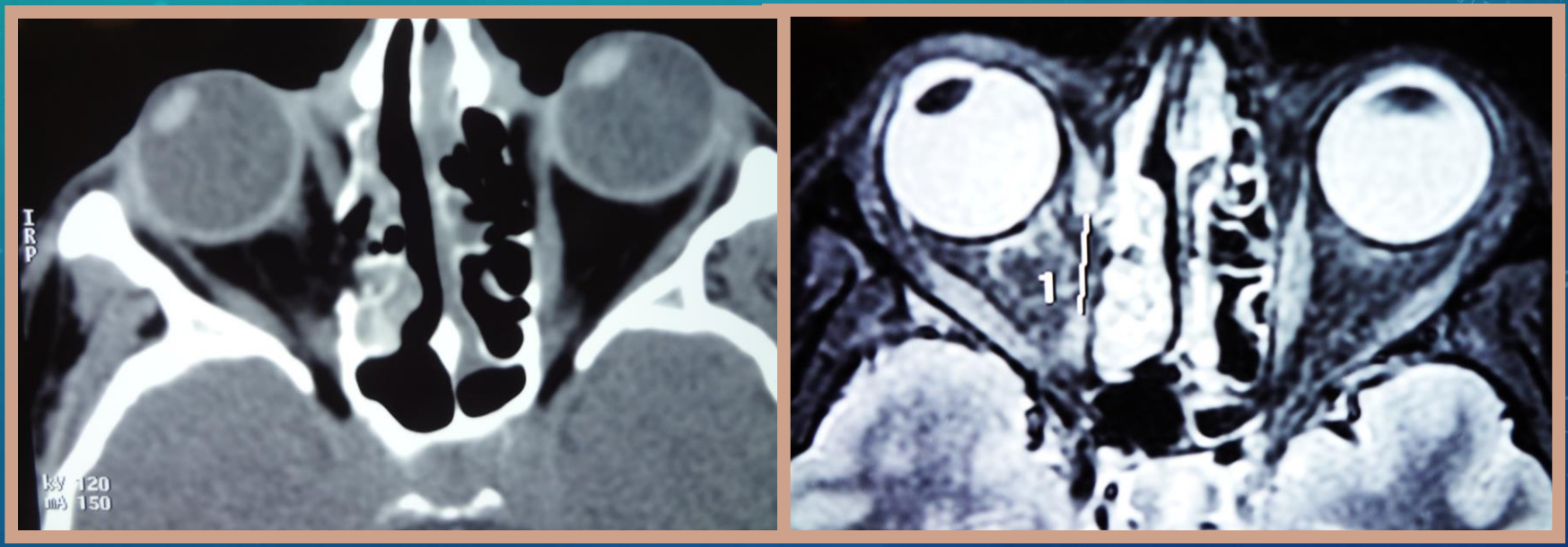


- Fusion with 40 PD BI
- Forced duction test: negative for adduction OD

DIAGNOSTIC WORK-UP



DIAGNOSTIC WORK-UP

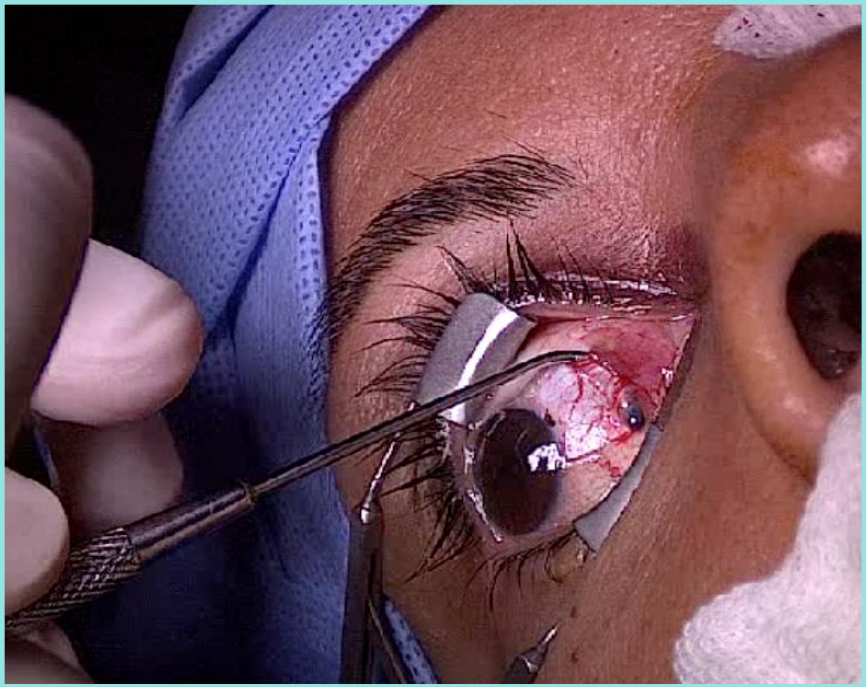
- Magnetic resonance imaging (MRI) revealed a defect in the medial wall of the right orbit. The medial rectus was deviated medially and was adherent to this defect There was no apparent connection between the proximal and distal segments of the muscle.

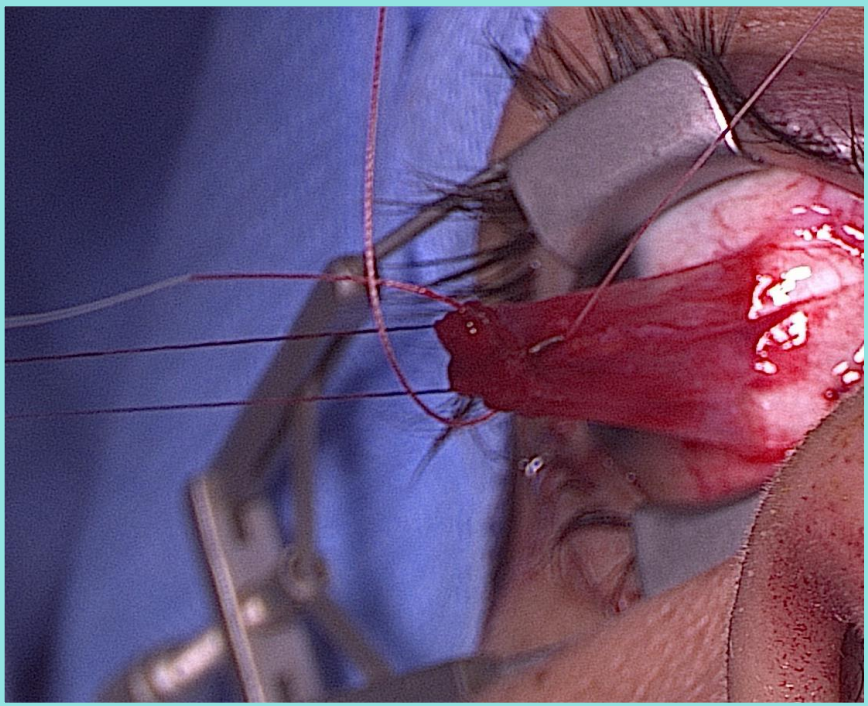
DIAGNOSIS

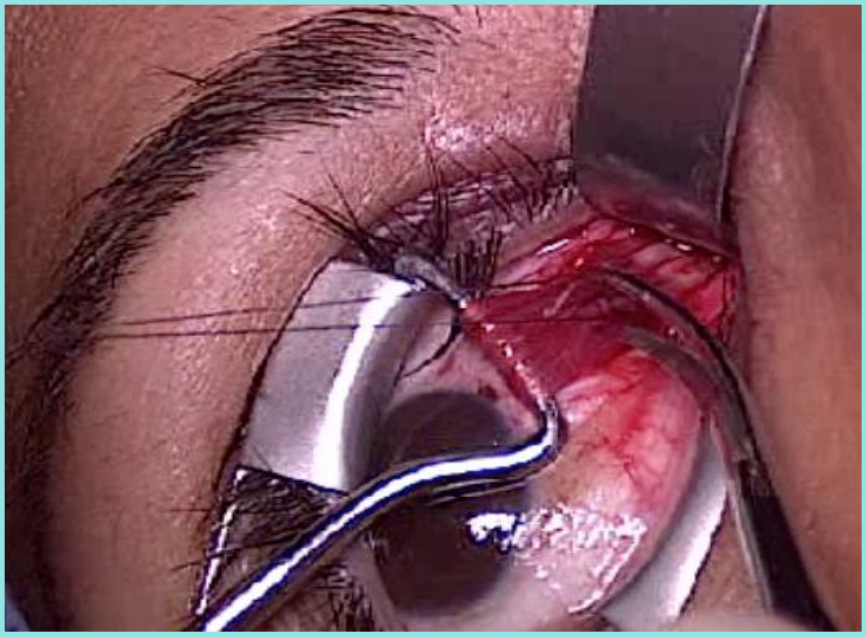
- Fracture of the lamina papyracea of the ethmoid bone
- RMR laceration - close to origin

ASSESSMENT

- **Transnasal endoscopic assessment (ENT)**
- **Conjunctival assessment (OPHT)**

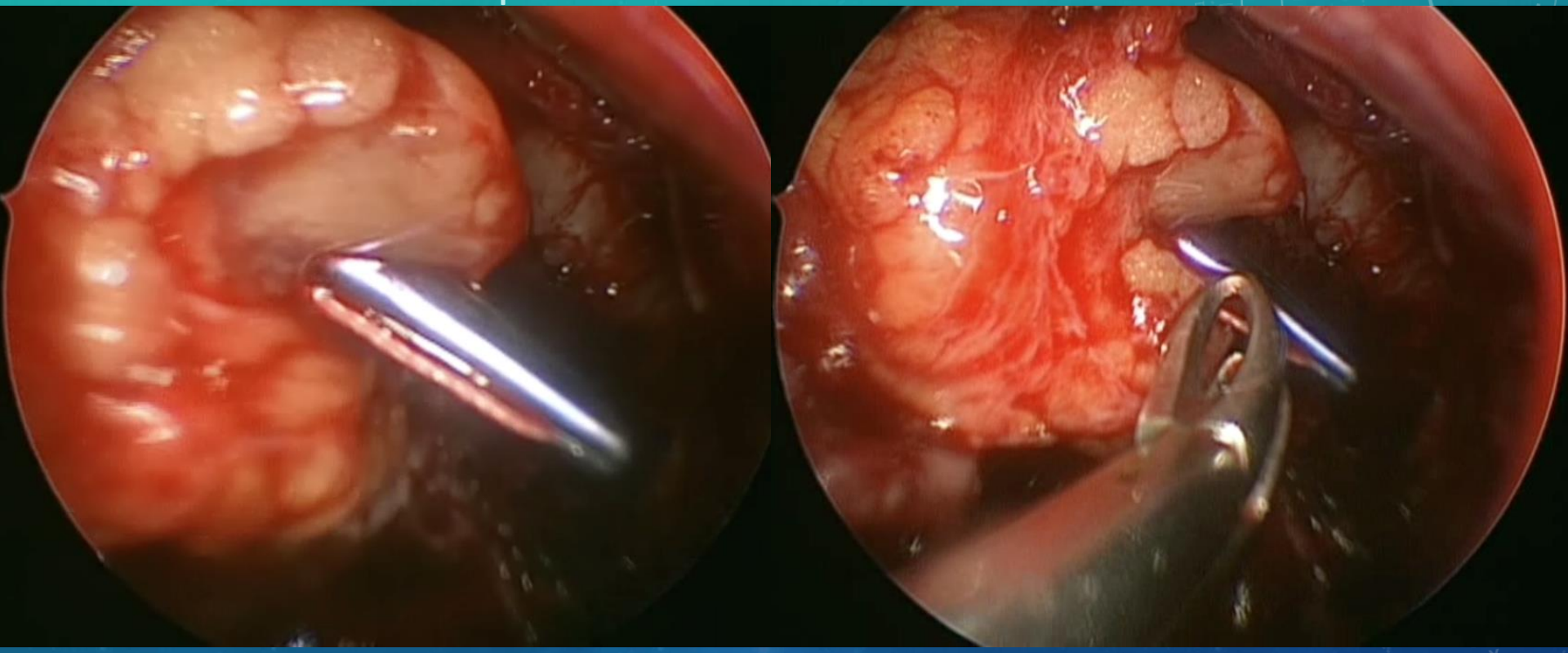




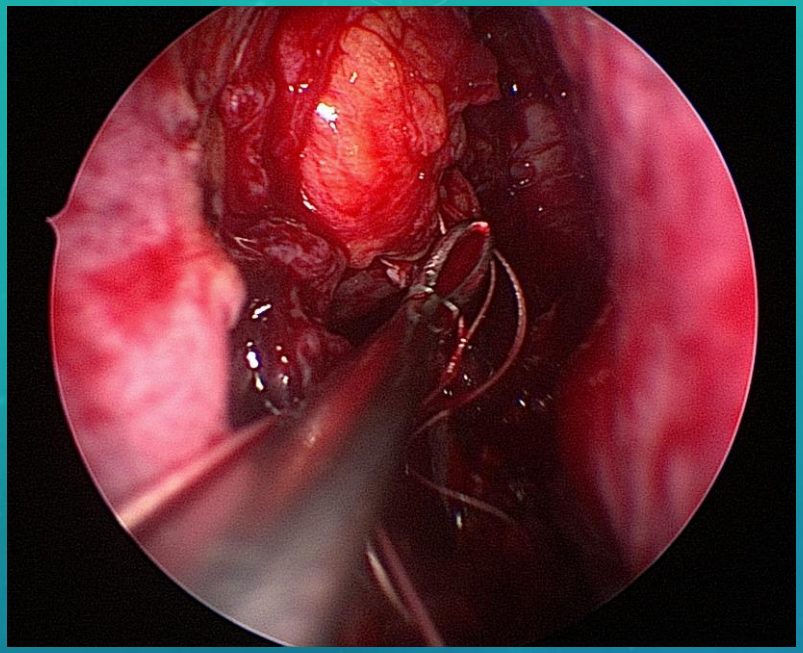


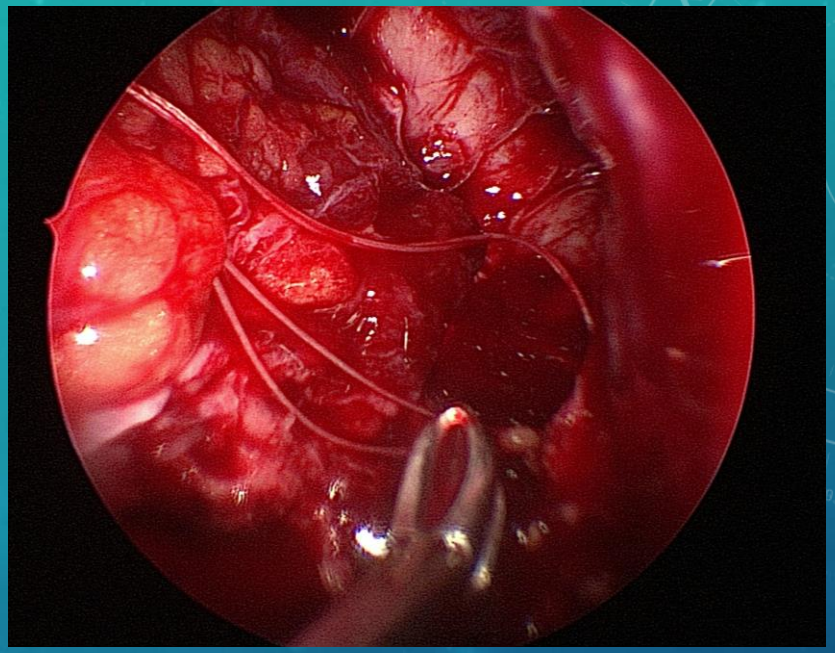
- Limbal incision, the right medial rectus (RMR) was hooked
- A non absorbable suture (Mersilene®) was placed on the proximal portion of the lacerated muscle, 15 mm from it's insertion
- The muscle was then inserted into the orbit

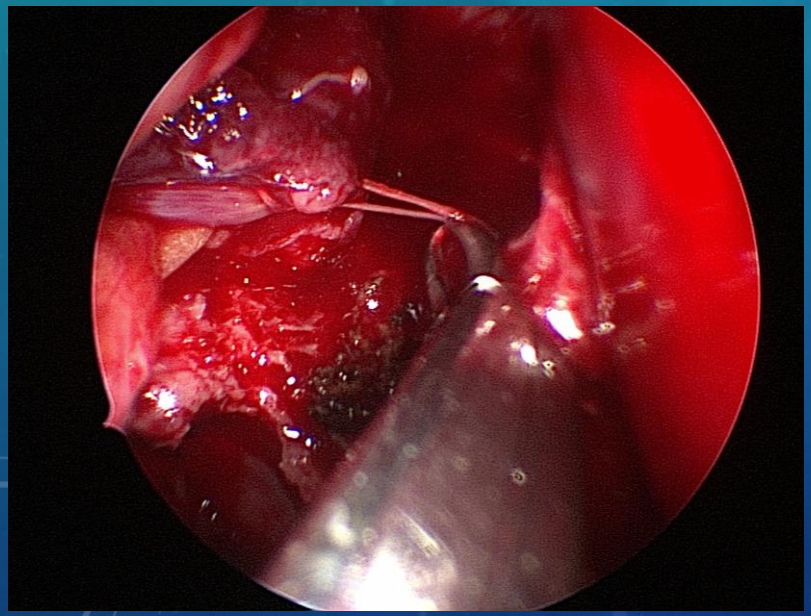
Transnasal endoscopic assessment



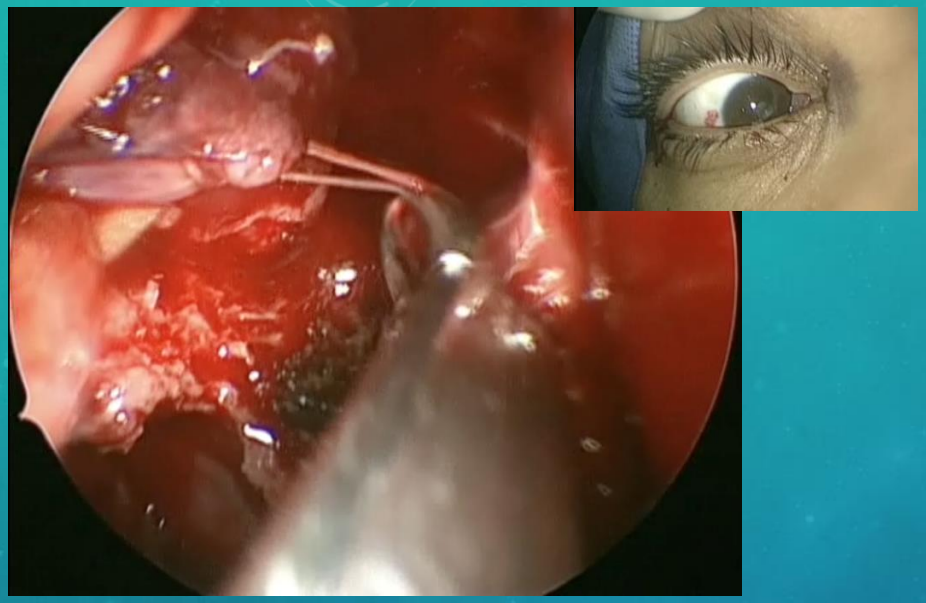
- Endoscopic view: the proximal stump of the lacerated RMR was grabbed with a nasal forceps



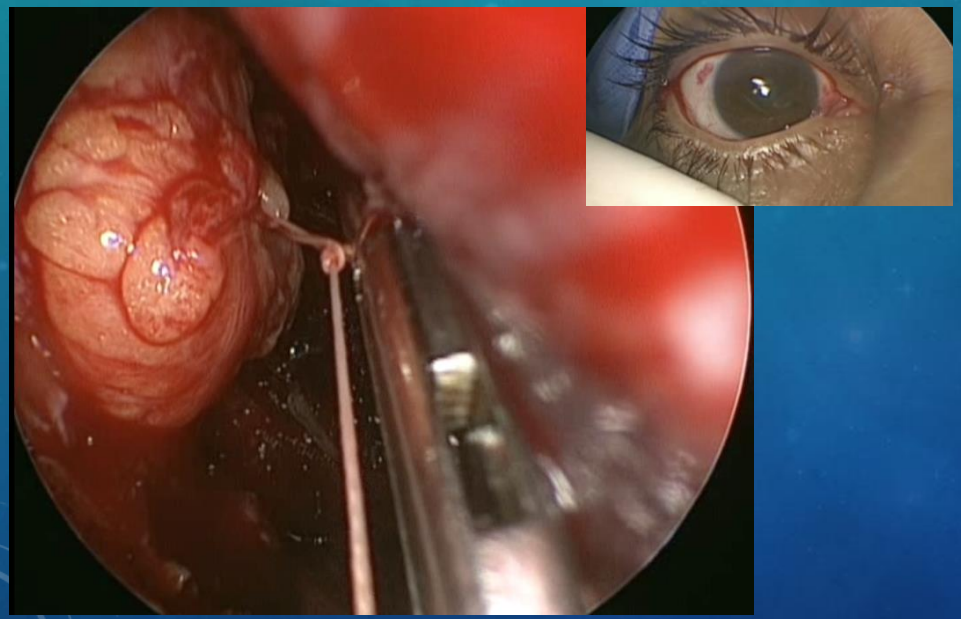




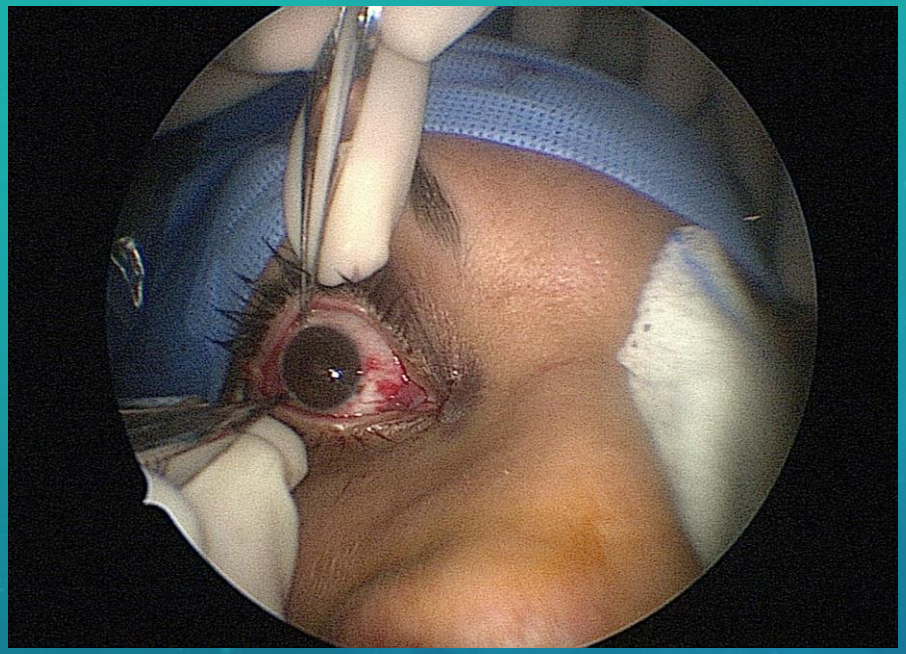
- A non absorbable suture (Mersilene®) was placed on the posterior stump of the lacerated RMR and both ends were connected

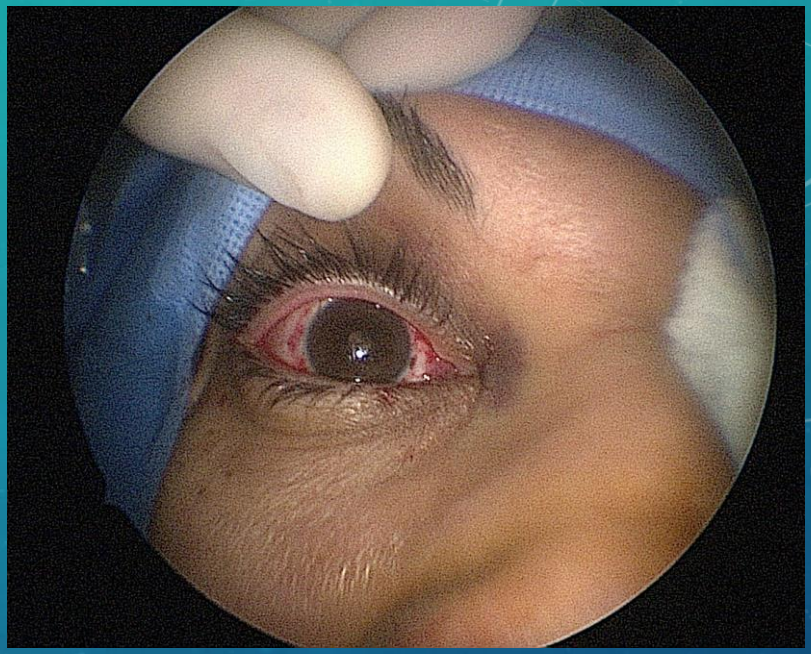


- The sutures were then adjusted according to the position of the eye

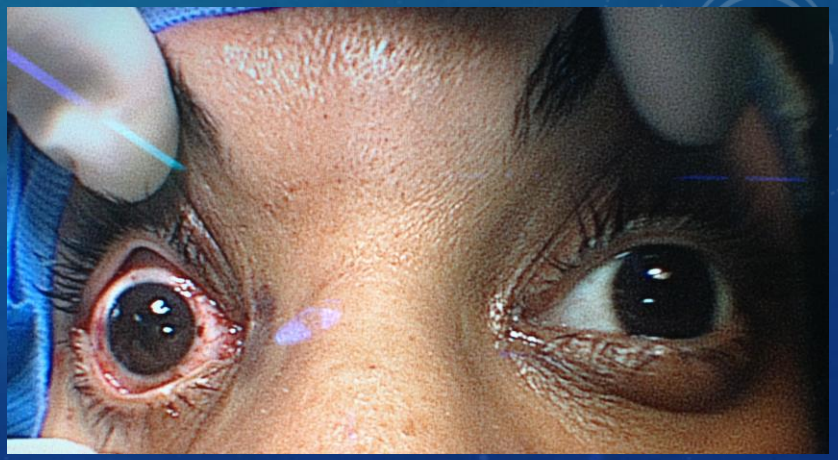


- The knot was tied when the eye achieved satisfactory alignment



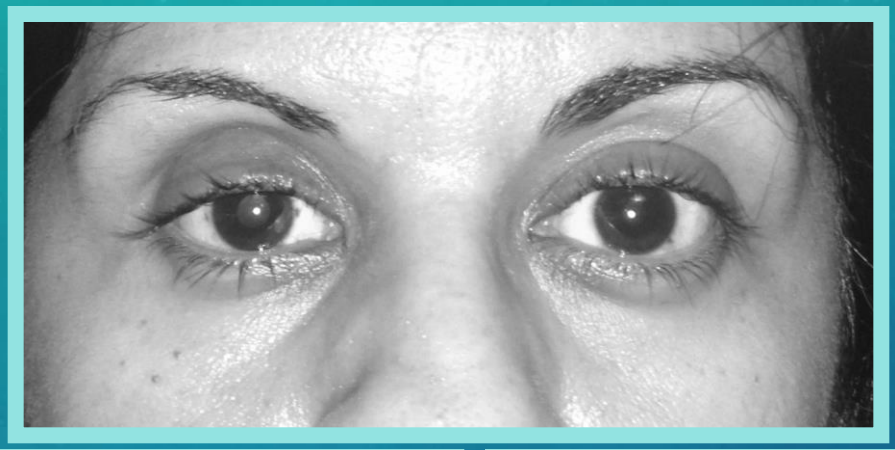


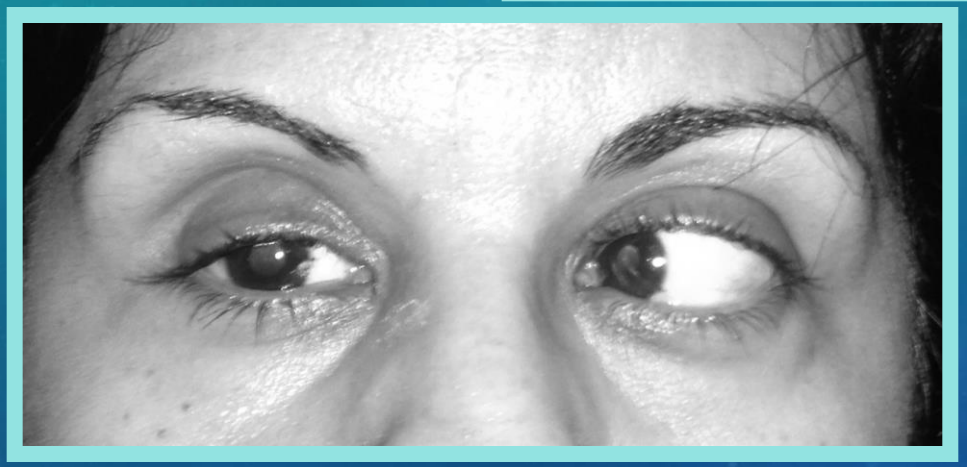
- Peroperative maneuvers were performed



- Final position: orthotropia

1 month postop





- Small exotropia with limited adduction of the right eye
- Decreased right direct pupillary reflex

1 year postop.:
Ortho in primary position (no diplopia / no head turn)

- VA sc: 20/40 // 20/20
- Fundus: nasal optic disc pallor

HOW WOULD YOU TREAT THIS CONDITION?

Do you feel recommending orbital imaging studies in suspected muscle injuries is:

a) Mandatory

b) Useful but not mandatory

c) I would not recommend prior imaging studies because the findings during surgical exploration are the key to the surgical plan

What would you do as an initial approach to this case?

a) Wait for recovery of the muscle function

b) A short trial of systemic corticosteroids to reduce inflammation and scarring

c) Botulinum toxin injection to the antagonist lateral rectus muscle

d)Surgical exploration

Which approach would you choose to treat medial rectus muscle injuries after endoscopic sinus surgery?

a) Vertical rectus transposition

b) Botulinum toxin injection to the antagonist lateral rectus muscle

c) Anterior orbitotomy and medial rectus exploration

d) Transnasal endoscopic assessment

COULD OUR EXPERTS PLEASE ANSWER THE FOLLOWING QUESTIONS IN ADDITION TO ANSWERING THE QUESTIONS ON THE PREVIOUS SLIDE?

- Assuming the medial rectus was adherent to the orbital defect, would you expect a positive forced duction test?
- What would be the optimal time for surgery?
- If the muscle had been transected and a large segment were missing or destroyed, what would be your surgical approach?

THANK YOU!!

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