

AFTER AHMED VALVE:

SOLUTIONS

Sara Mora Sáez¹, Mayerling Mercedes Suriano^{1,2}, Irene Gregori Gisbert¹, Mireia Mascarell Vidal¹, Enara Etxabe Agirre¹

1. Hospital General Universitario de Castellón (Spain); 2. Clínica Vila Innova Ocular (Spain)

- They have no conflicts of interest to declare -

- PURPOSE -

Ahmed glaucoma valve (AGV) implant is a drainage device which decreases intraocular pressure (IOP) thanks to silicone tube and its valve mechanism. Aqueous humor (AH) flows from inside the eye to the plate that is under the conjunctiva in superotemporal region¹⁻².

Many complications because of AGV are presented but the most specific one is **tube exposure**³. Its frequency varies from 5% to 14.3% of cases due to various causes: a immune-mediated process, a mechanical process or atrophy¹.

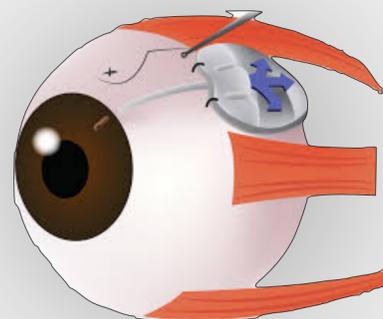


Figure 1. Ahmed glaucoma valve implant⁴.

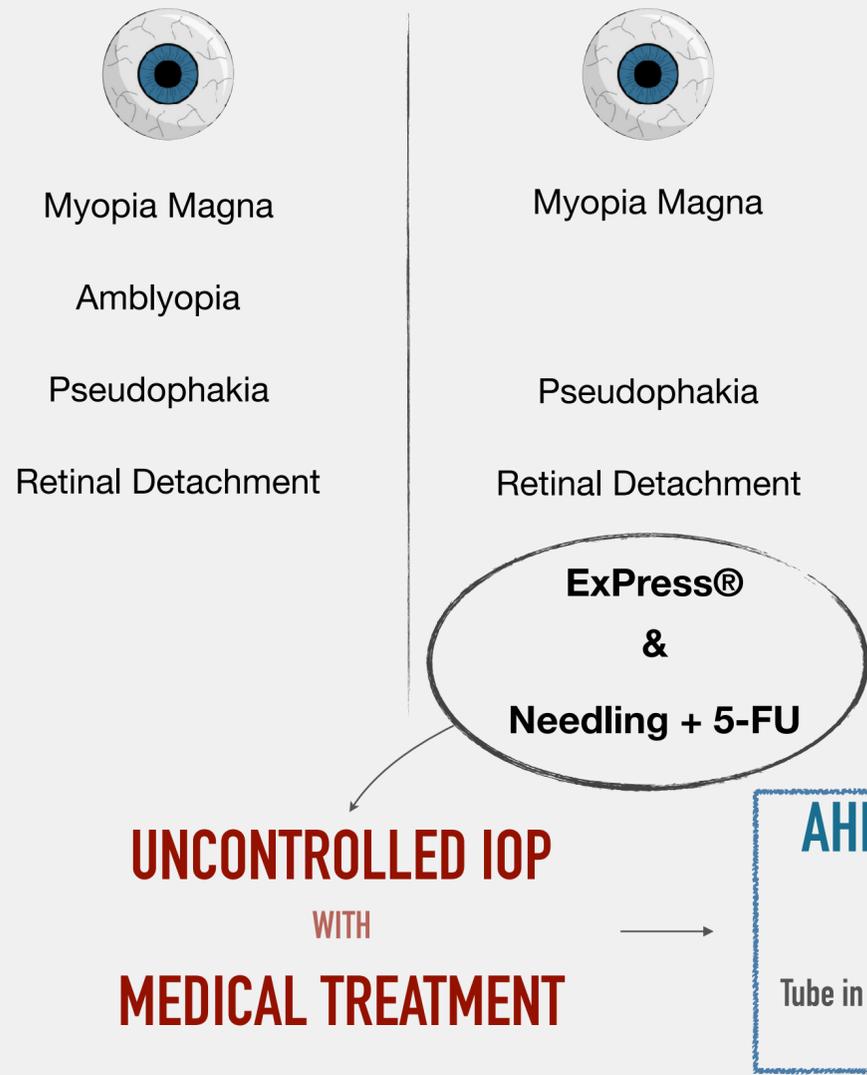
To prevent this complication is as important as treated it, because tube exposure is the most common endophthalmitis risk factor⁵. Because of that, autologous and heterologous patch⁶ are usually used to avoid direct contact between the tube and the conjunctiva⁷.



To show the therapeutic alternatives applied in a recurrent conjunctival erosion of an Ahmed valve tube.

56-YEAR-OLD MALE

- MATERIAL & METHODS -



Trigon Depot & Cosopt®

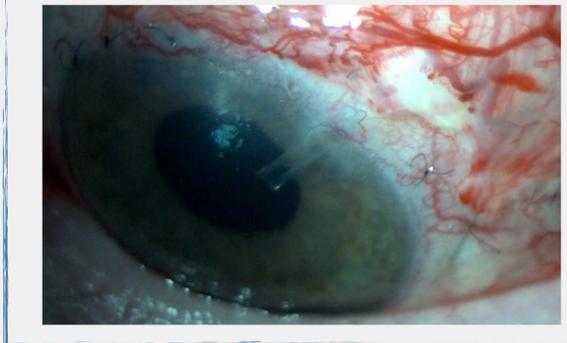


Figure 3. Picture of our patient where it can be observed conjunctival retraction with pericardial patch exposure. Firstly, it was solved with suture (22/12/2017) and one week after (28/12/2018) with autologous conjunctival patch.

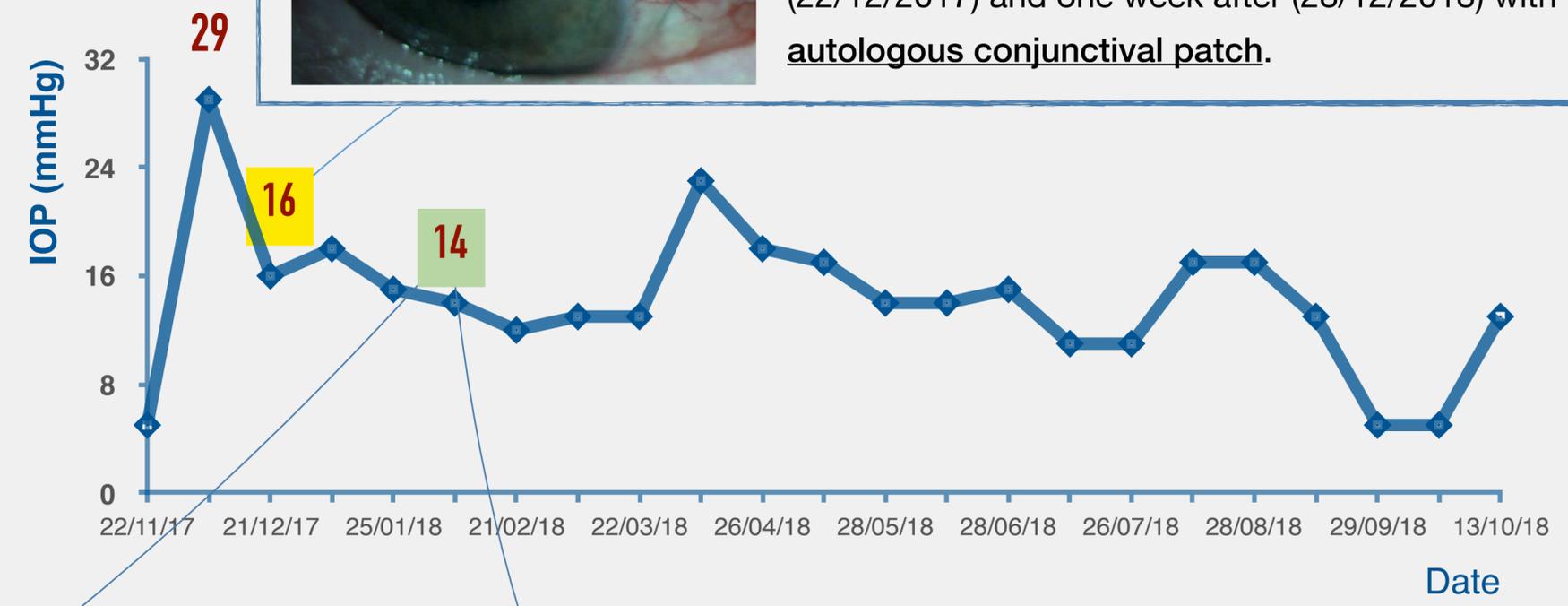


Figure 2. IOP progression after implantation of the Ahmed glaucoma valve. IOP was within limits thanks to medical treatment. However, a variety of complications occurred during its follow-up.

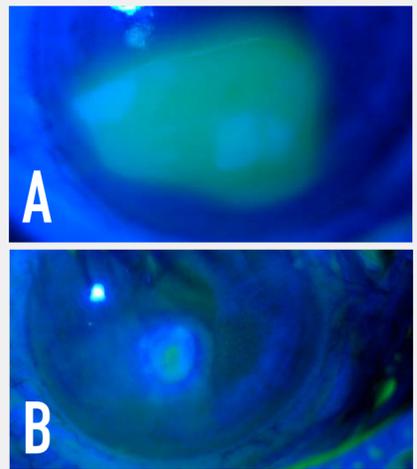


Figure 4.
(A) A 8 millimetres appeared corneal erosion which was located in inferior cornea.
(B) After five months with medical treatment (doxycycline Oral Suspension, autologous serum eye drops and antibiotic ointment) it was healed.

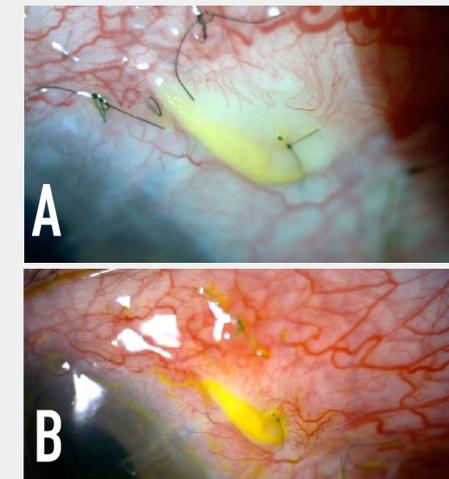


Figure 5. (A) Pericardium patch exposure is observed because of recurrent conjunctival erosion. However, in contrast to corneal erosion, it was not achieved complete re-epithelialization within five months with medical treatment **(B)**

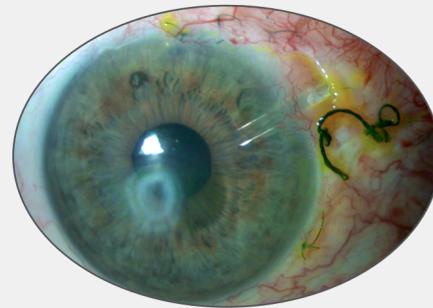
Different surgical alternatives were proposed to close this recurrent conjunctival erosion:

1. Shortening of pericardium patch.
2. Covering with amniotic membrane (AM).
3. Retroiridian surgical repositioning of the tube.

- RESULTS -

SHORTENING OF PERICARDIUM PATCH

(31/07/2018)



TUBE EXPOSURE
after 2 WEEKS

COVERING WITH AMNIOTIC MEMBRANE

(14/08/2018)



AFTER 2 WEEKS
AM CAME OFF

RETROIROIDIAN SURGICAL REPOSITIONING OF THE TUBE

(15/10/2018)

SUCCESSFUL TREATMENT



- CONCLUSIONS -

The treatment for the Ahmed valve tube and pericardial patch exposed in eyes with underwent several surgeries is a challenge.

In our patient, the technique with the best results was the repositioning of the tube in sulcus.

In conclusion, in some cases it may be preferable to situate the valve tube in sulcus².

active neovascular disease

pseudophakia



SULCUS

Iridocorneal endothelial syndrome

narrow anterior chamber

keratoplasty

- REFERENCES -

1. Riva, I, Roberti G, Oddone F, et al. Ahmed glaucoma valve implant: surgical technique and complications. *Clinical Ophthalmology*. 2017;11: 357–367.
2. Rebolleda Fernandez G, Muñoz-Negrete FJ, Barrancos Julián C. Dispositivo de drenaje valvulado de Ahmed. In: Urcelay JL, editor. *Cirugía de glaucoma paso a paso*. Barcelona: Glosa; 2012. p. 71–79.
3. Minckler DS, Francis BA, Hodapp EA, et al. Aqueous shunts in glaucoma: a report by the American Academy of Ophthalmology. *Ophthalmology*. 2008; 115(6):1089-1098.
4. Fabre Miranda A. Ilustración de válvula de Ahmed [Internet]. 2019 [cited 22 January 2020]. Available from: <https://www.clinicasantabarbara.com.mx/web/views/cirurgiaglaucoma.html>
5. Al-Torbak AA, Al-Shahwan S, Al-Jadaan I, Al-Hommadi A, Edward DP. Endophthalmitis associated with the Ahmed glaucoma valve implant. *Br J Ophthalmol*. 2005;89(4):454-458.
6. Oana S, Vila J. Tube Exposure Repair. *J Current Glau Prac*. 2012;6(3),139–142.
7. Freedman J. Scleral patch grafts with Molteno setons. *Ophthalmic Surgery*. 1987;18(7):532-534.