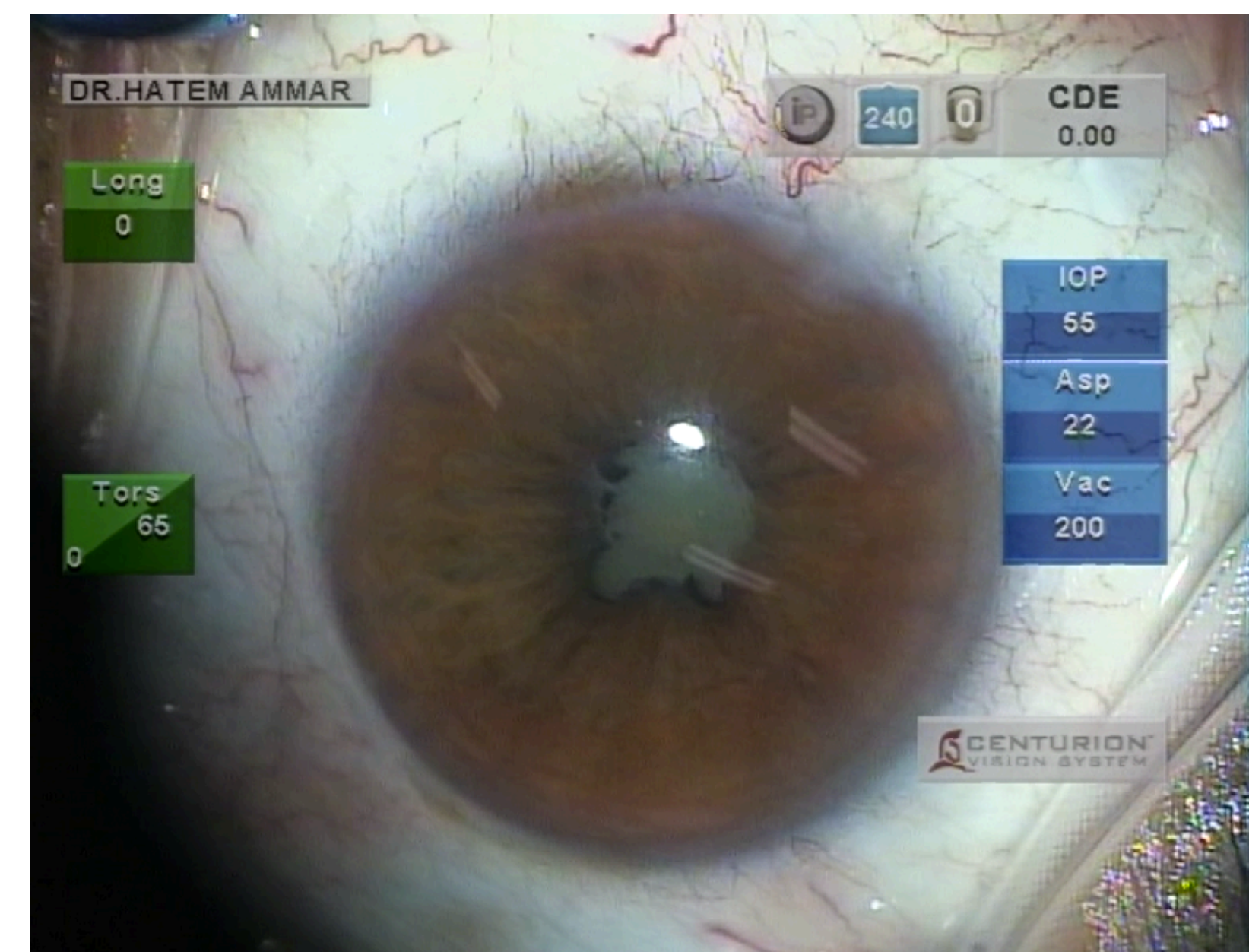
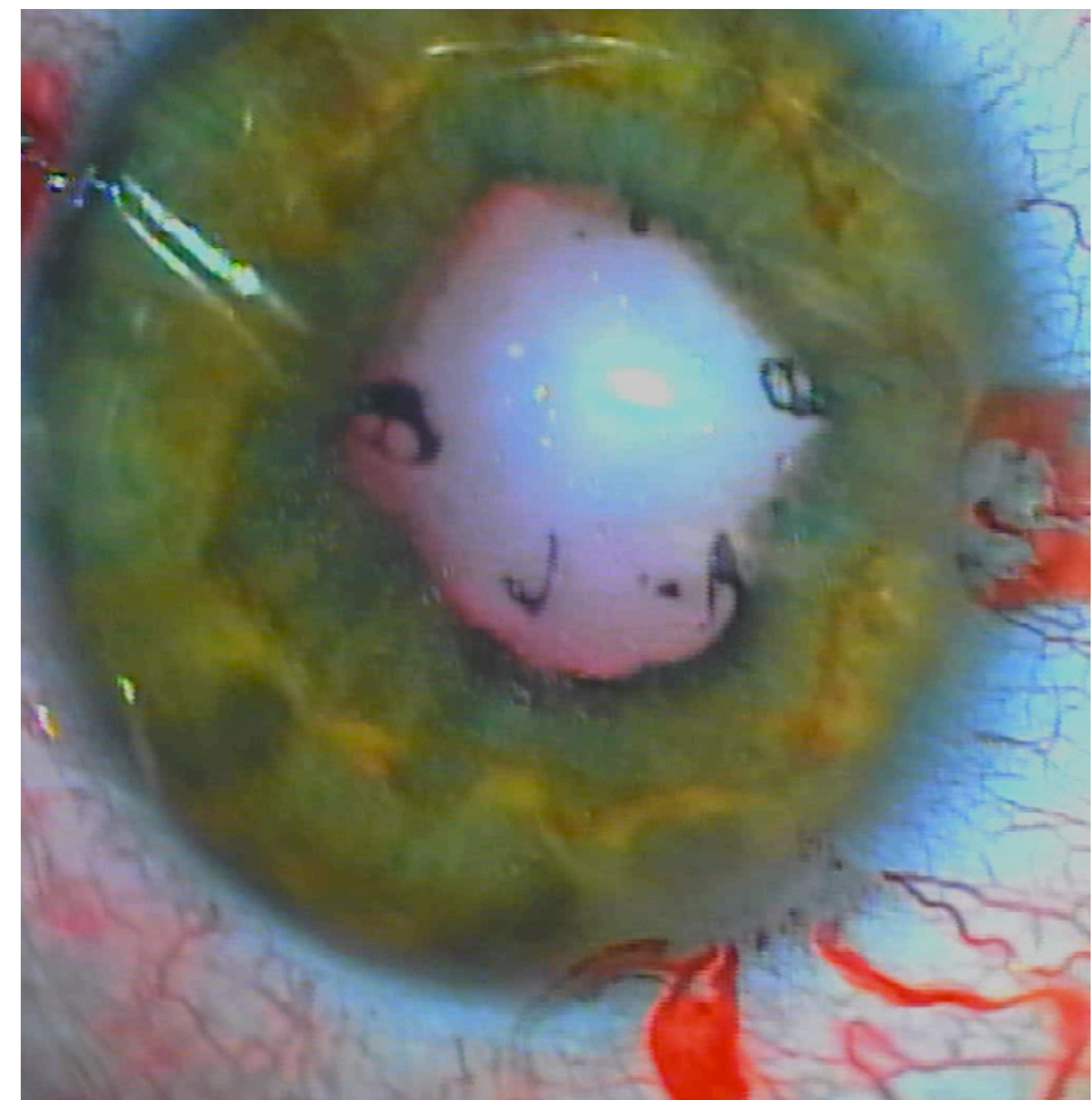


Management of Cataract with Uveitis

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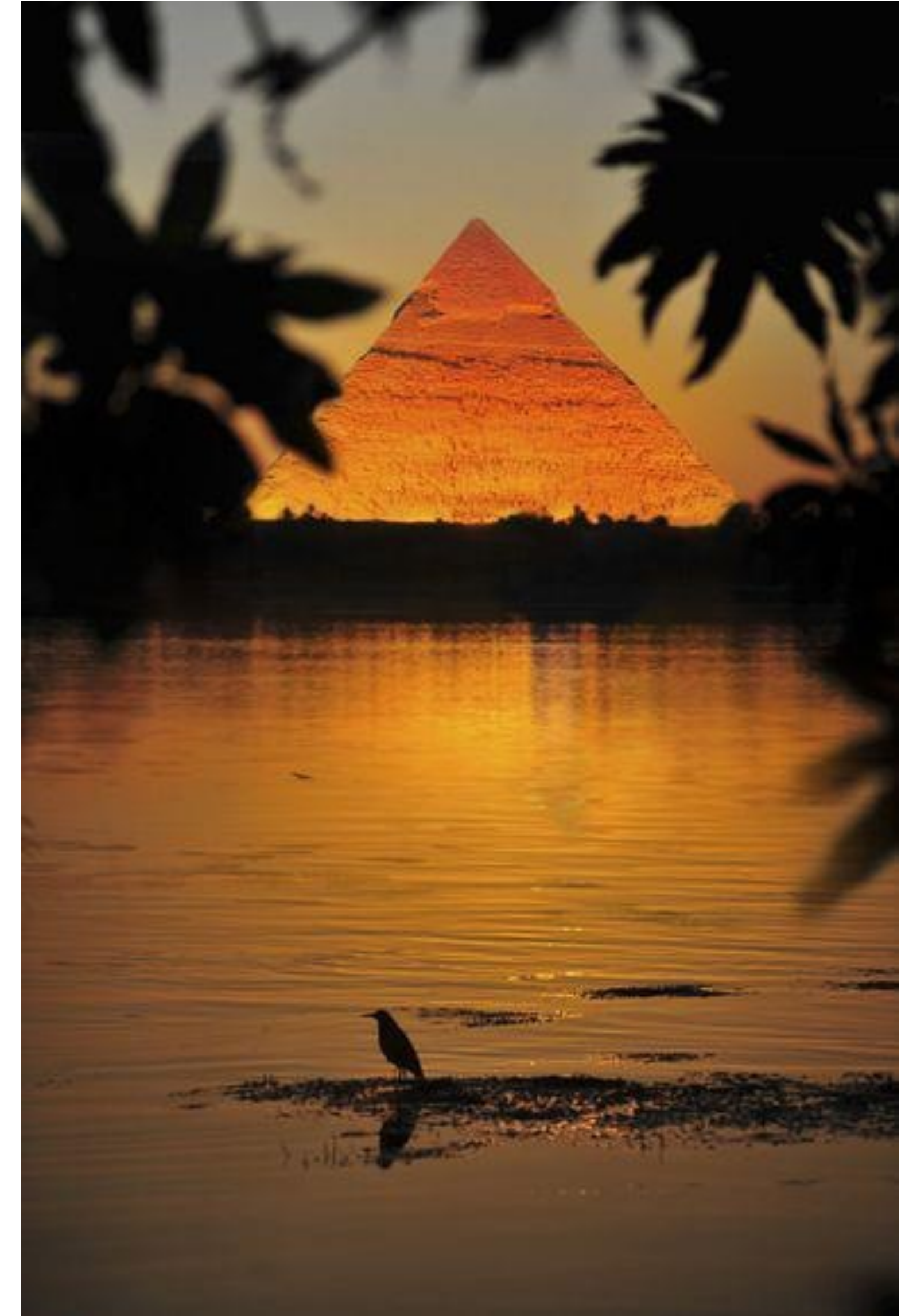


Financial Disclosure

Speaker for :

- Alcon
- Novartis
- Johnson & Johnson
- Orchidia
- Eva Pharma

No Financial Interest



- Cataract is a common complication from uveitis
- It occurs in:
 - 50 % of patients with anterior and intermediate uveitis.
 - 83 % of Juvenile Idiopathic Arthritis .
 - Rare in posterior uveitis .

Indications for surgery

- A. Phacoantigenic uveitis is an absolute indication for cataract extraction
- B. Visually significant cataract in an eye with good expected visual potential and well-controlled inflammation;
- C. Cataract that impairs fundus assessment in a patient with suspected posterior segment pathology.
- D. Cataract that impairs fundus visualization in a patient undergoing posterior segment surgery.

The poor prognostic factors

- ✿ Chronic macular edema, macular ischemia, atrophy, hole or scar.
- ✿ Retinal ischemia, retinal detachment and epiretinal membrane
- ✿ Optic atrophy and glaucomatous cupping of the disc are poor prognostic factors

Timing of cataract surgery

- **No activity** of uveitis for at least **3 months** before surgery.
- **Behcet's disease** , inactivity for at least **6 months** preoperatively to reduce the chance of postoperative attacks.
- In pediatric patients, the risk of **amblyopia** needs to be considered when cataract surgery is delayed.

- Elgohary MA, McCluskey PJ, Towler HM, Okhravi N, Singh RP, Obikpo R, et al. Outcome of phacoemulsification in patients with uveitis. Br J Ophthalmol. 2007;91:916–21.

- Bélair ML, Kim SJ, Thorne JE, Dunn JP, Kedhar SR, Brown DM, et al. Incidence of cystoid macular edema after cataract surgery in patients with and without uveitis using optical coherence tomography. Am J Ophthalmol. 2009;148:128–35.e2.

- Kadayifçılar S, Gedik S, Eldem B, Irkeç M. Cataract surgery in patients with Behçet's disease. J Cataract Refract Surg. 2002;28:316–20.

Investigations

Investigations are directed toward identifying coexisting ocular pathologies that may contribute to surgical difficulties :

- A. **B-scan ultrasonography** should be done to rule out retinal detachment In presence of dense lens opacity.
- B. **Optical coherence tomography** of the macula to assess the macula thickness and presence of epiretinal membranes
- C. **OCT and visual field** assessment in optic nerve pathology.
- D. **Fluorescein angiogram** to look for macular ischemia or edema, retinal ischemia and posterior segment disease activity
- E. **Macular function tests.**

Investigations

F . **Ultrasound biomicroscopy** must be conducted in eyes with relative hypotony to assess the state of the ciliary body and its processes:

An atrophied ciliary body



High risk of hypotony

If cyclitic membranes are causing traction on the ciliary body processes with resultant ciliary body detachment



Vitreotomy, trimming of the ciliary membrane and **silicone oil** filling to relieve ciliary body traction and restore normal IOP.

Counseling the Patient for Uveitic Cataract Surgery

Managing patient's expectations with regards to the visual prognosis are paramount, especially if the disease involves the posterior segment.

It is necessary to **emphasize that :**

- Surgery could be **more complicated** with **prolonged** surgical duration due to abnormal anatomy.
- The possibility of **significant postoperative inflammation.**

- **Delayed visual recovery,**
- The need for **compliance with immunosuppressive** medications
- **Frequent follow-up** visits post operative.
- The **loss of accommodation**
- The decision as to whether an **IOL** should be implanted, and the **type** and **design** of the implant should also be discussed with the patient.

Perioperative Optimization and Postoperative Care

Cataract surgery success is critically related to **Careful Control of Perioperative Inflammation** , both pre- and post- operatively.

- Bélair ML, Kim SJ, Thorne JE, Dunn JP, Kedhar SR, Brown DM, et al. Incidence of cystoid macular edema after cataract surgery in patients with and without uveitis using optical coherence tomography. *Am J Ophthalmol.* 2009;148:128–35.e2.
- Agrawal R, Murthy S, Ganesh SK, Phaik CS, Sangwan V, Biswas J, et al. Cataract surgery in uveitis. *Int J Inflam.* 2012;2012:548453.
- Kosker M, Sungur G, Celik T, Unlu N, Simsek S. Phacoemulsification with intraocular lens implantation in patients with anterior uveitis. *J Cataract Refract Surg.* 2013;39:1002–7.
- Murthy SI, Pappuru RR, Latha KM, Kamat S, Sangwan VS. Surgical management in patient with uveitis. *Indian J Ophthalmol.* 2013;61:284–90.
- Ganesh SK, Babu K, Biswas J. Phacoemulsification with intraocular lens implantation in cases of pars planitis. *J Cataract Refract Surg.* 2004;30:2072–6.
- Terrada C, Julian K, Cassoux N, Prieur AM, Debre M, Quartier P, et al. Cataract surgery with primary intraocular lens implantation in children with uveitis: Long-term outcomes. *J Cataract Refract Surg.* 2011;37:1977–83.

- Patients with **no inflammatory** activity should continue with their existing **maintenance immunosuppressive** regime.
- Patients **on chronic oral corticosteroids** should be prescribed a **stress dose** on the day of surgery and into the immediate postoperative period, which is then tapered accordingly.
- Preoperative **intravenous high-dose corticosteroids** are recommended in cases where **surgery is urgent with active inflammation** in spite of heavy immunosuppression.

Peri-operative Treatment

Oral Corticosteroid

Topical

Intraoperative steroids

Steroid

NSAID

Intravitreal TA

Intravitreal Implant

Subtenon's TA

Oral Corticosteroid

Oral corticosteroid prophylaxis is indicated for eyes with severe and difficult to control inflammation like :

- Panuveitis, such as VKH disease and Behcet's disease
- One-eyed patients especially if they had lost the other eye through uncontrolled inflammation.

Although several studies have reported the efficacy of various routes of perioperative steroid administration, no standard protocol is available at present.

Dosage

- 1.0 mg/kg of oral prednisolone started 3-5 days preoperative in addition to the ongoing immunosuppression,
- Slowly tapered by 5.0 mg/week until 20 mg daily then
- Tapered by 5.0 or 2.5 mg daily every 1–2 weekly depending on the uveitis activity.
- Maintenance dose of 5-10 mg daily for 3 months after surgery and finally stopped or until it reaches the pre-surgery dose.

Topical steroids

Prednisolone acetate 1%, _Difluprednate 0.05%, _Disodium dexamethasone 0.15%

Mora P et al 2016 found that an **intensive perioperative topical steroid alone** was statistically comparable to oral steroids in preventing postoperative uveitis relapse in a small nonmasked randomized controlled trial. **However, the recurrence rate was higher.**

- Mora P, Gonzales S, Ghirardini S, Rubino P, Orsoni JG, Gandolfi SA, et al. Perioperative prophylaxis to prevent recurrence following cataract surgery in uveitic patients: A two-centre, prospective, randomized trial. Acta Ophthalmol. 2016;94:e390-4.

Topical NSAID

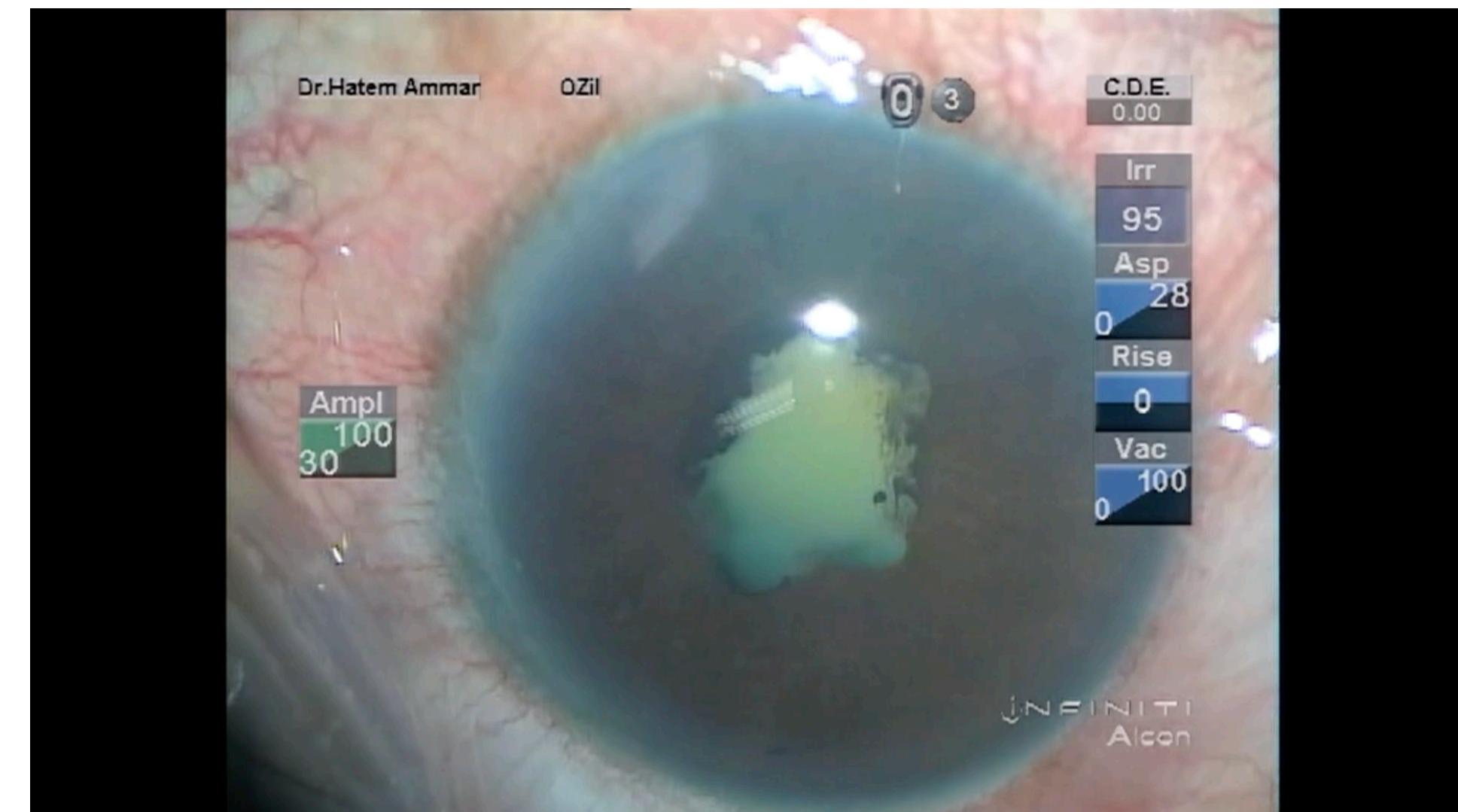
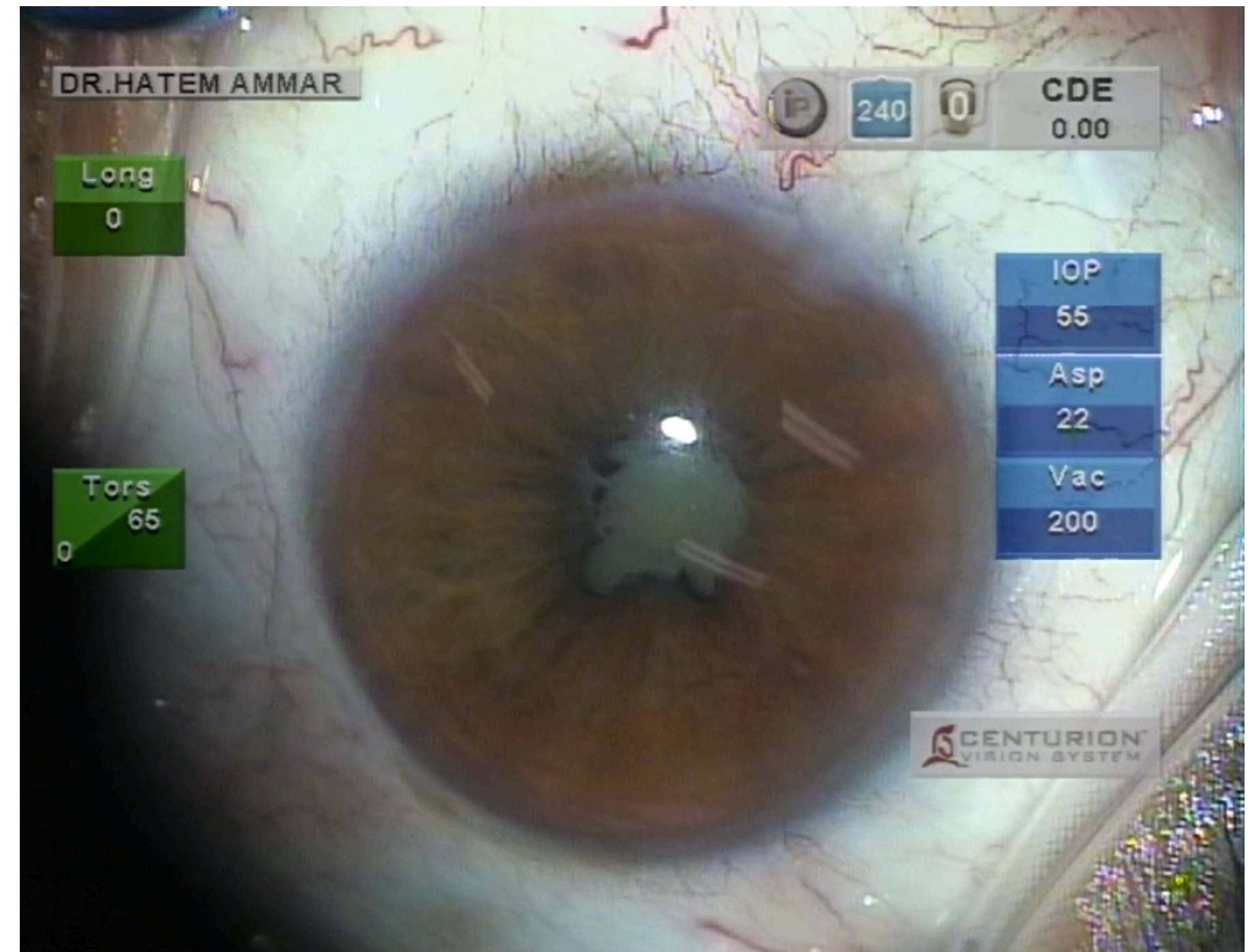
Topical NSAID may reduce the incidence of macular edema in uveitis patients after cataract surgery.

- Prophylactic non-steroidal anti-inflammatory drugs for the prevention of macular oedema after cataract surgery. Lim BX, Lim CH, Lim DK, Evans JR, Bunce C, Wormald R. Cochrane Database Syst Rev. 2016 Nov 1;11(11)

Special surgical considerations

Special surgical considerations

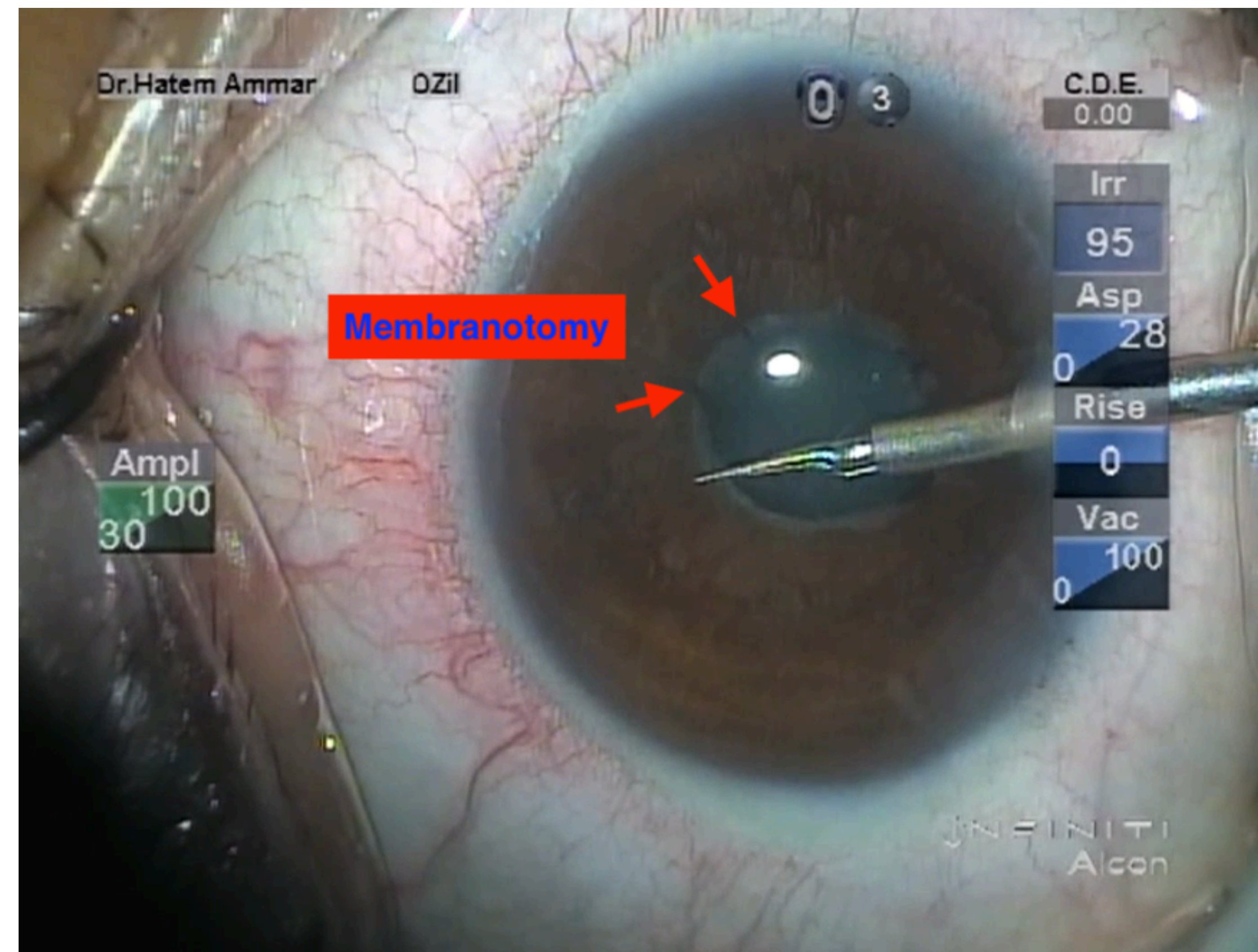
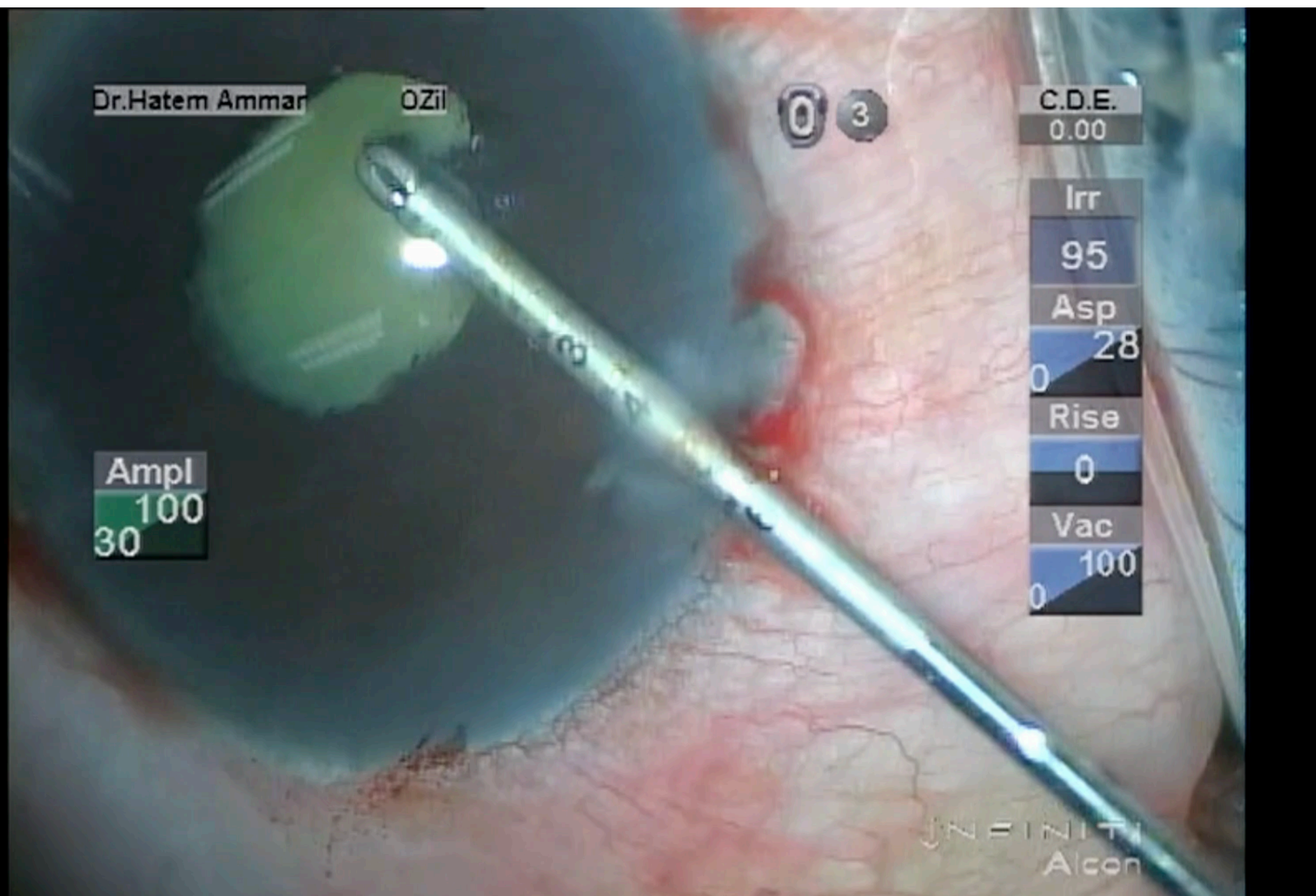
- Posterior synechiae
- Poor pupillary dilation
- Epilenticular membranes
- Zonular weakness
- White cataract



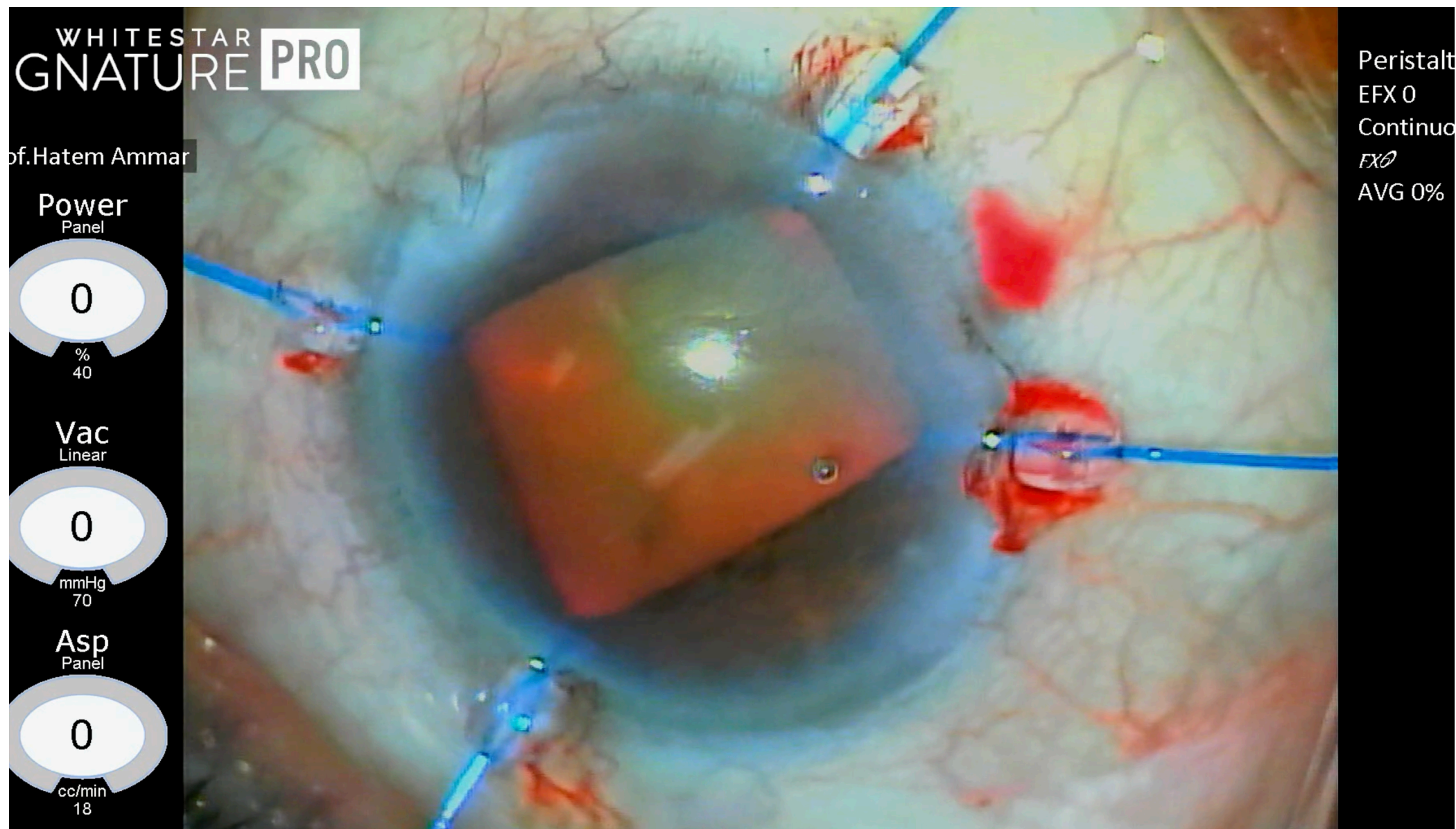
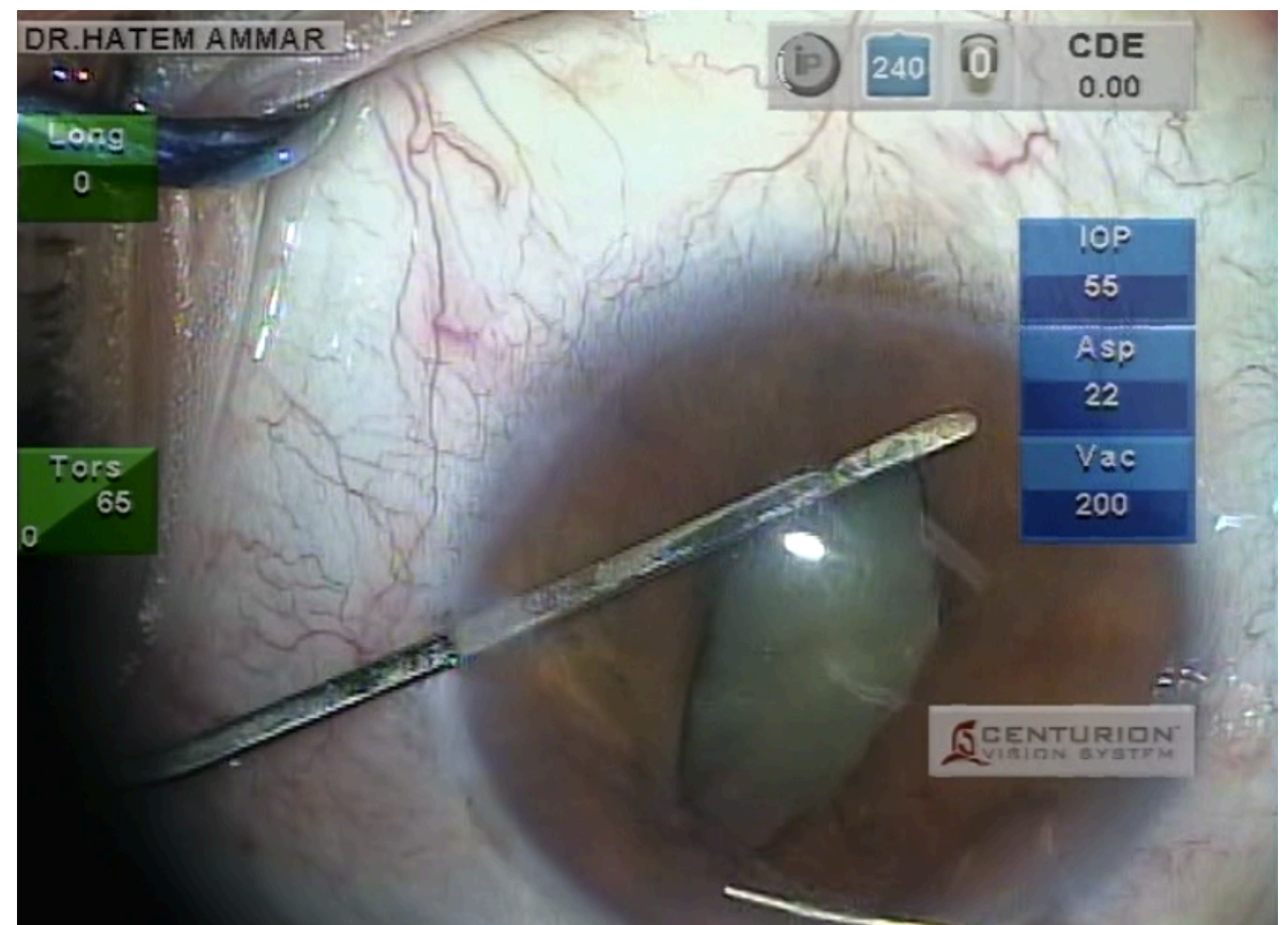
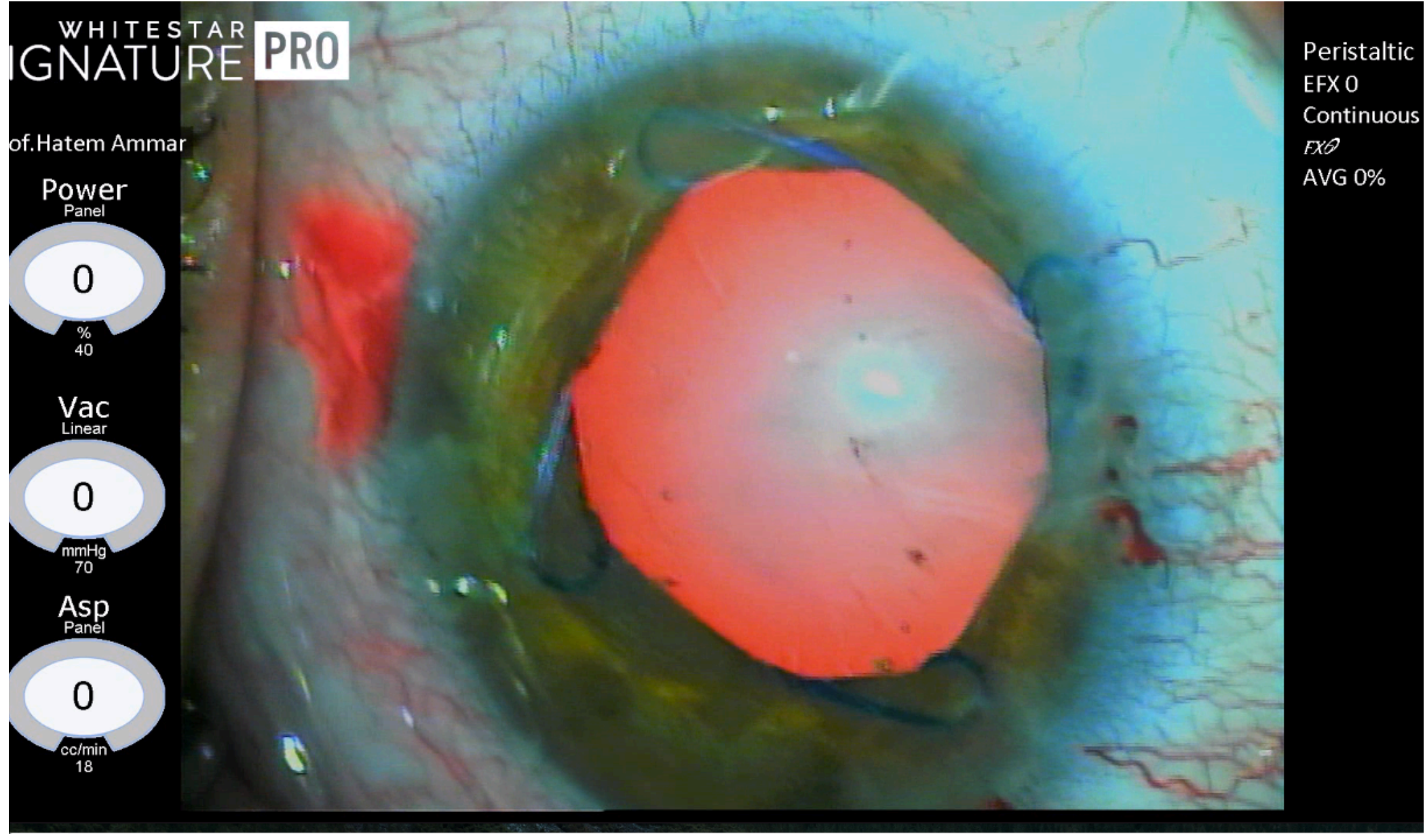
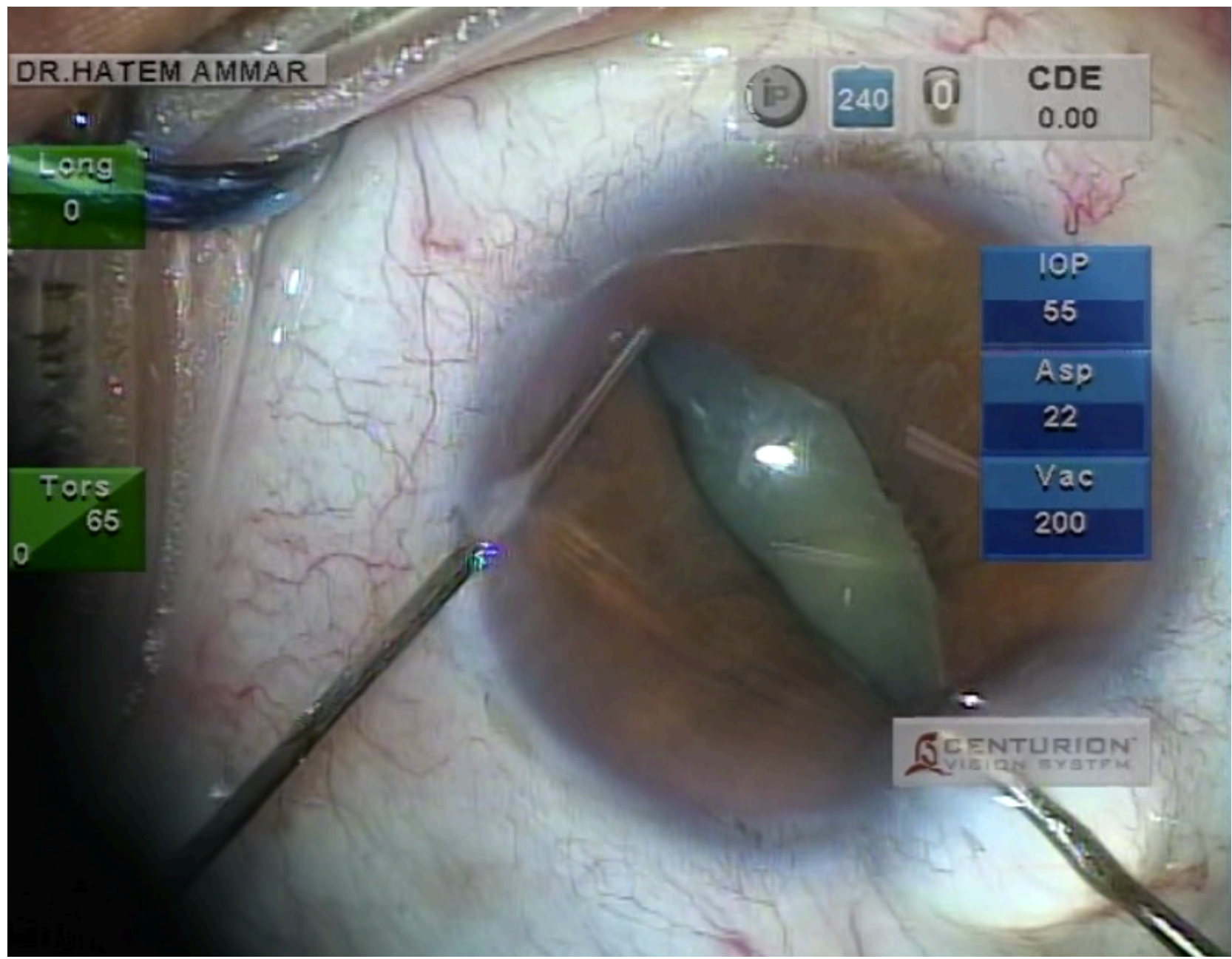
Intraoperative Considerations

- Clear corneal incision
- Removal of pupillary membrane
- Wide enough pupil
- Wide enough capsulorhexis
- Complete cortical clean up
- In the bag IOL is a must
- Acrylic IOL or PMMA
- Peripheral iridectomy

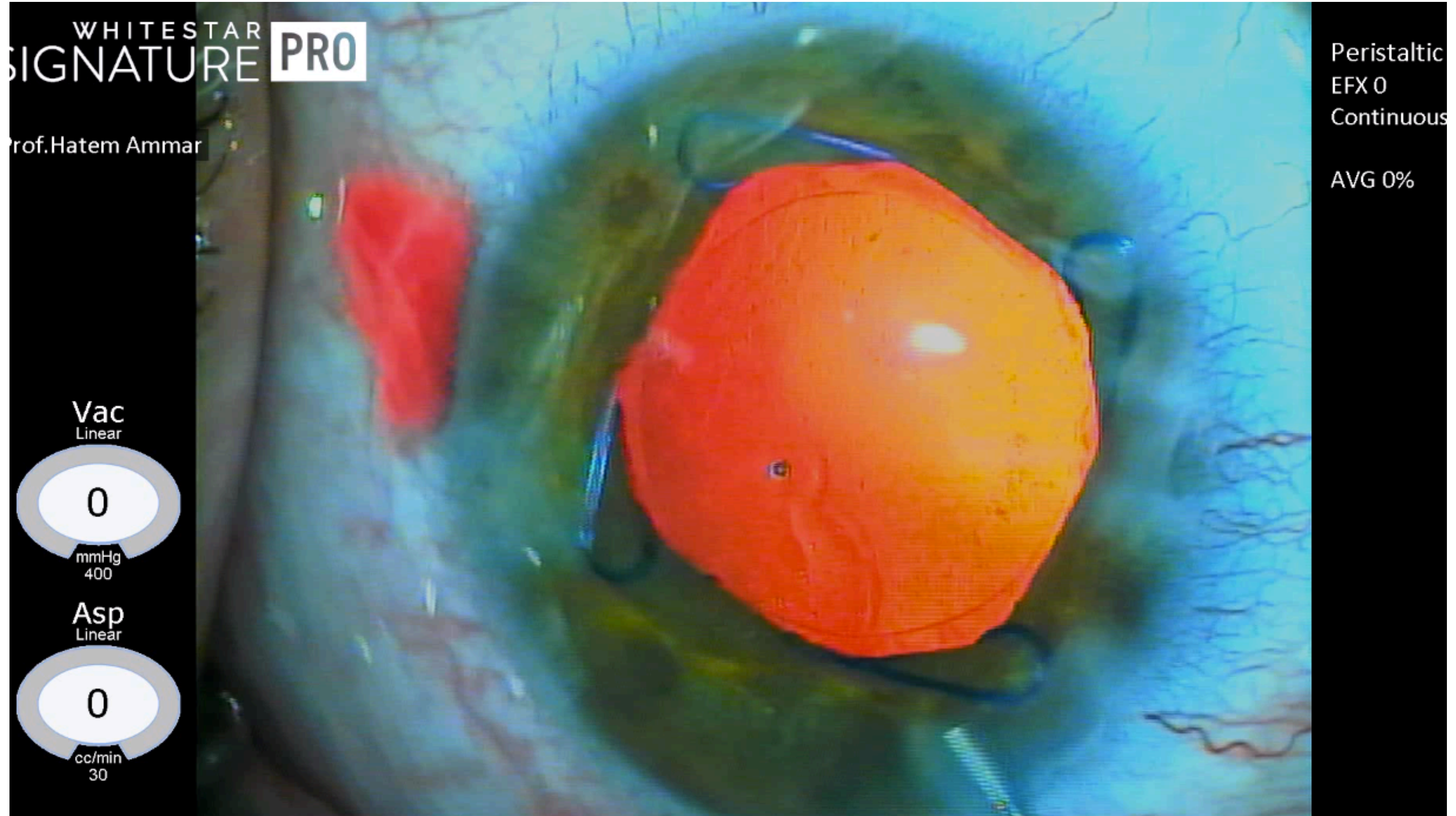
Removal of pupillary membrane

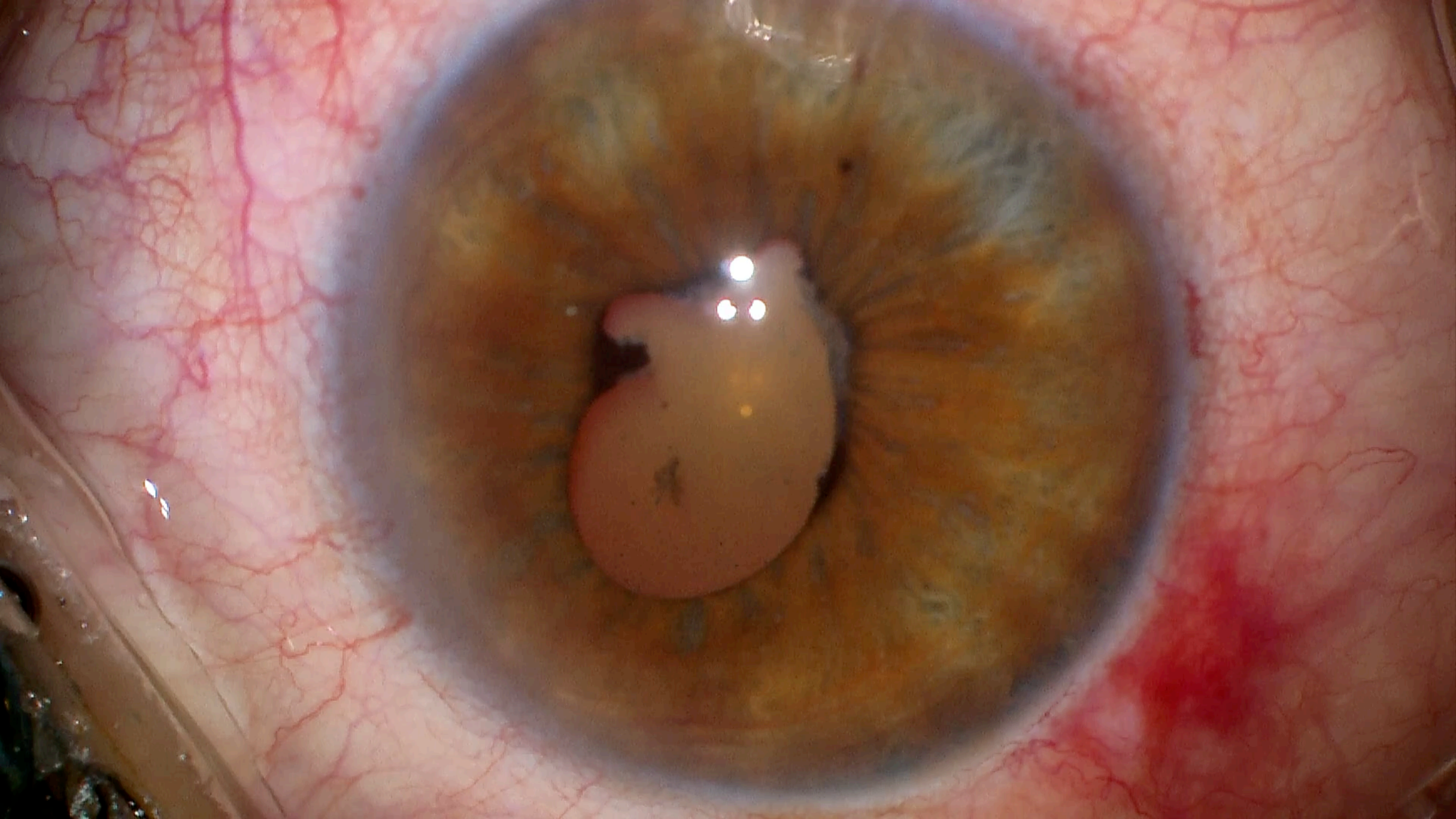


Wide enough pupil



Wide enough capsulorhexis





Dr.Hatem Ammar

OZil

0 3

C.D.E.
0.00

Ampl
100
30

Irr

95

Asp

28

Rise

0

Vac

100

INFINITI
Alcon

Intraoperative steroids

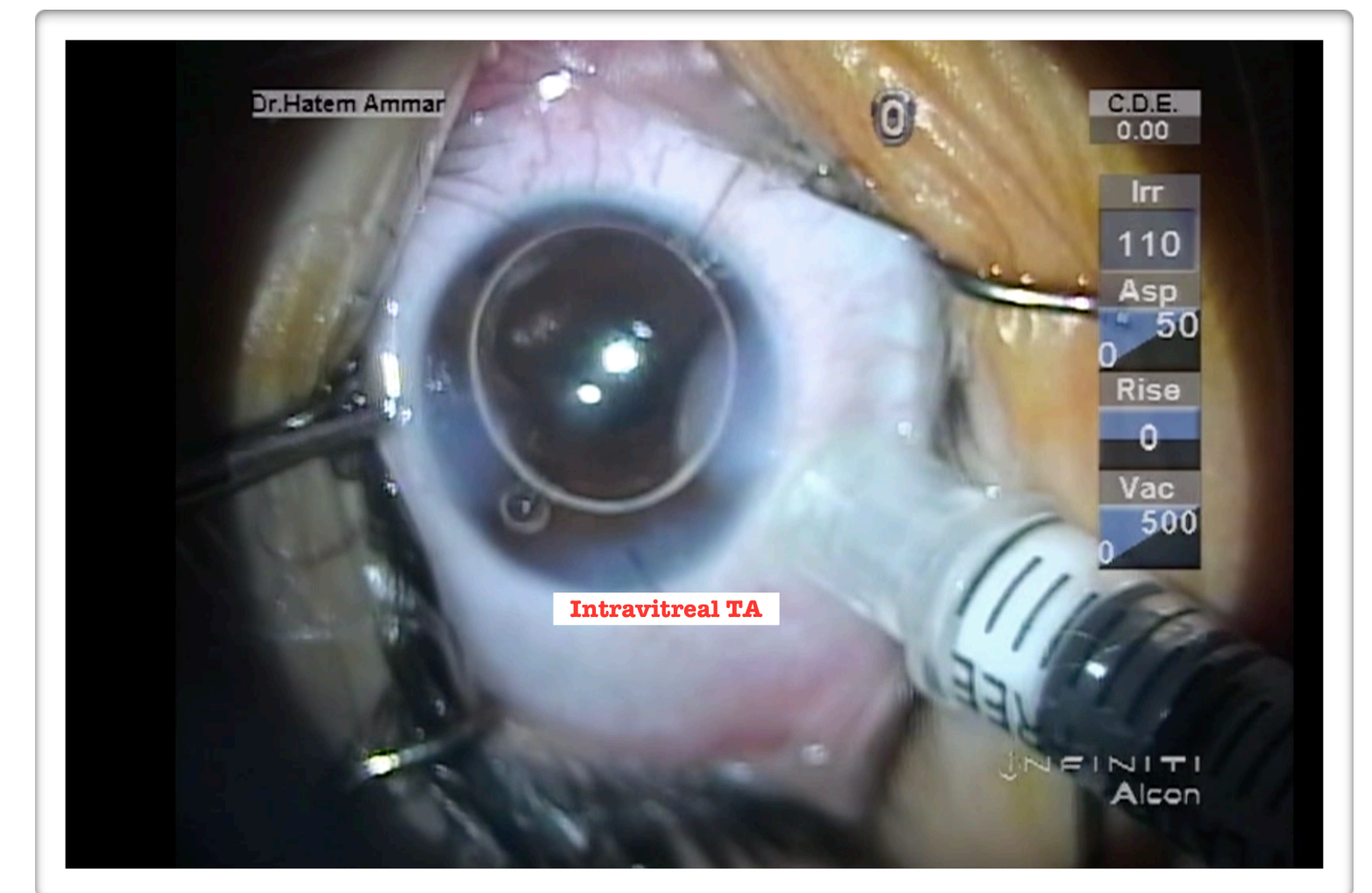
Intravitreal TA

Intravitreal
Dexamethasone Implant

Subtenon's TA

Intravitreal TA

Intravitreal injection of preservative-free **TA 4 mg in 0.1 mL** at the end of cataract surgery has been shown to be **as effective as perioperative systemic steroids** with no difference in the visual outcome, AC reaction, central macular thickness, or recurrence of uveitis.



- Dada T, Dhawan M, Garg S, Nair S, Mandal S. Safety and efficacy of intraoperative intravitreal injection of triamcinolone acetonide injection after phacoemulsification in cases of uveitic cataract. J Cataract Refract Surg. 2007;33:1613-8.
- Jonas JB. Intravitreal triamcinolone acetonide: A change in a paradigm. Ophthalmic Res. 2006;38:218-45.
- Okhravi N, Morris A, Kok HS, Menezes V, Dowler JG, Hykin PG, et al. Intraoperative use of intravitreal triamcinolone in uveitic eyes having cataract surgery: Pilot study. J Cataract Refract Surg. 2007;33:1278-83.

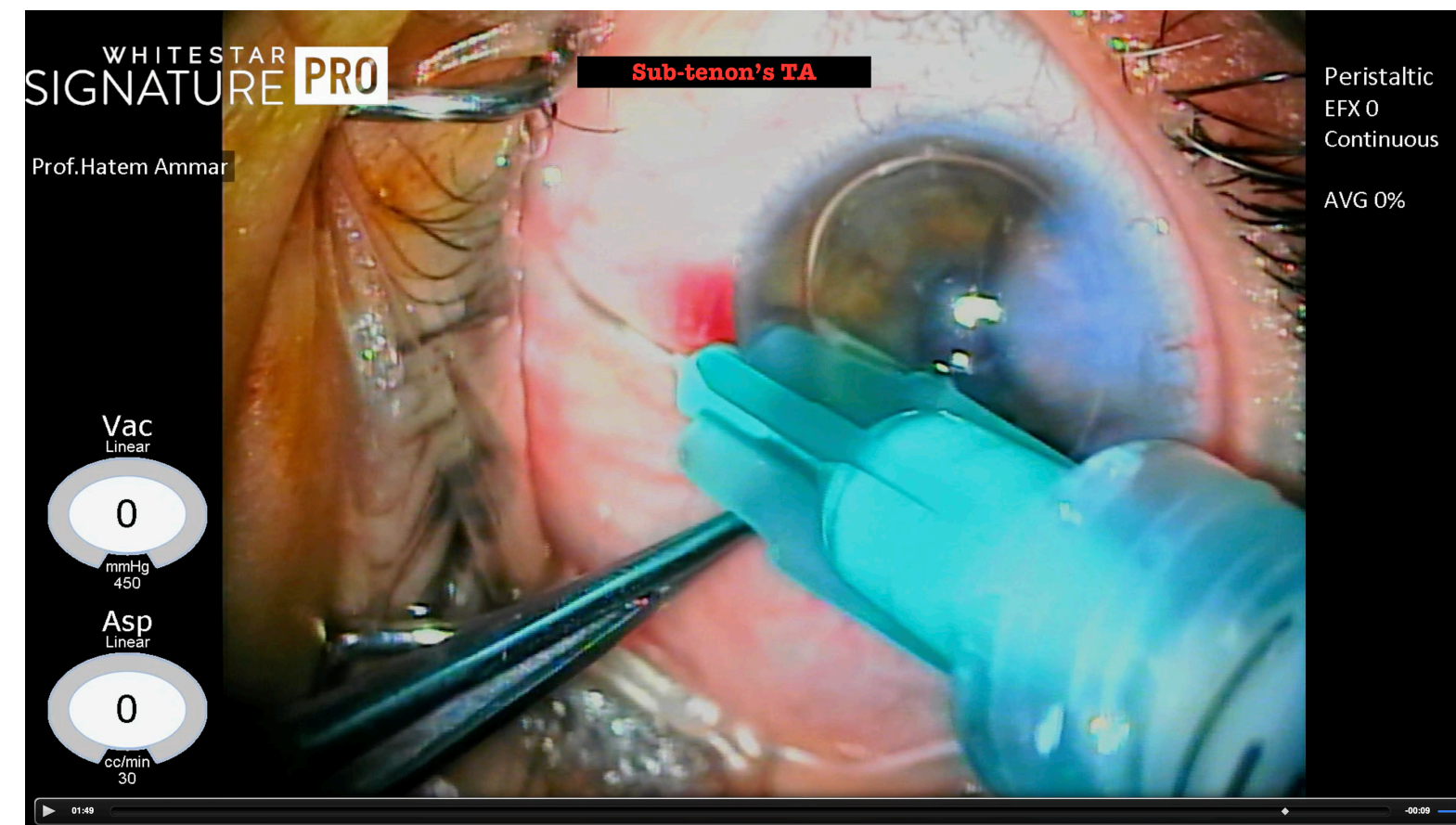
An intravitreal dexamethasone implant

An intravitreal dexamethasone implant (Ozurdex[®], Allergan Inc) helps to prevent the recurrence or worsening of CME in uveitic patients with a history of CME.

Larochelle MB et al 2016 found that eyes that received the dexamethasone **implant within 4 weeks** before cataract surgery showed **improvement in CME**.

Subtenon's steroid

Roesel M et al 2010 found that a **single-dose** intraoperative subtenon's injection of **TA 40 mg/1 mL** is as **effective** as a **4-week course** of postoperative **oral prednisolone** in terms of reducing postoperative inflammation, macular edema, and improving the visual outcome.



- Roesel M, Heinz C, Koch JM, Heiligenhaus A. Comparison of orbital floor triamcinolone acetonide and oral prednisolone for cataract surgery management in patients with non-infectious uveitis. Graefes Arch Clin Exp Ophthalmol. 2010;248:715-20.

Take Home Message

Delicate surgical
maneuvers

+

well controlled peri-operative
inflammation

**Excellent results in cataract
with uveitis**



THANK YOU

See you next year

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Thank You

