INTERNATIONAL CONGRESS OF THE
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Feeling defeated after dropped nucleus: How to solve it?

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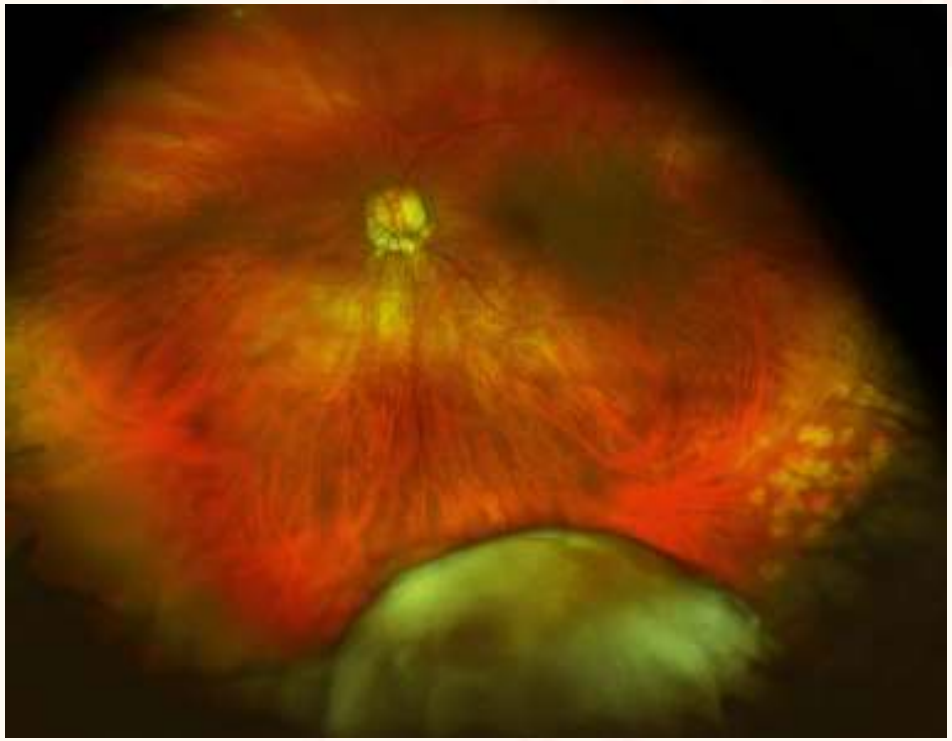
INTRODUCTION

- Dropped nucleus are the most unpleasant complications in cataract surgery.
- If untreated properly the consequences will be significant including: retinal detachment, macular edema, glaucoma, and intraocular inflammation.



Incidence:

The ROYAL COLLEGE of OPHTHALMOLOGISTS

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ARTICLE

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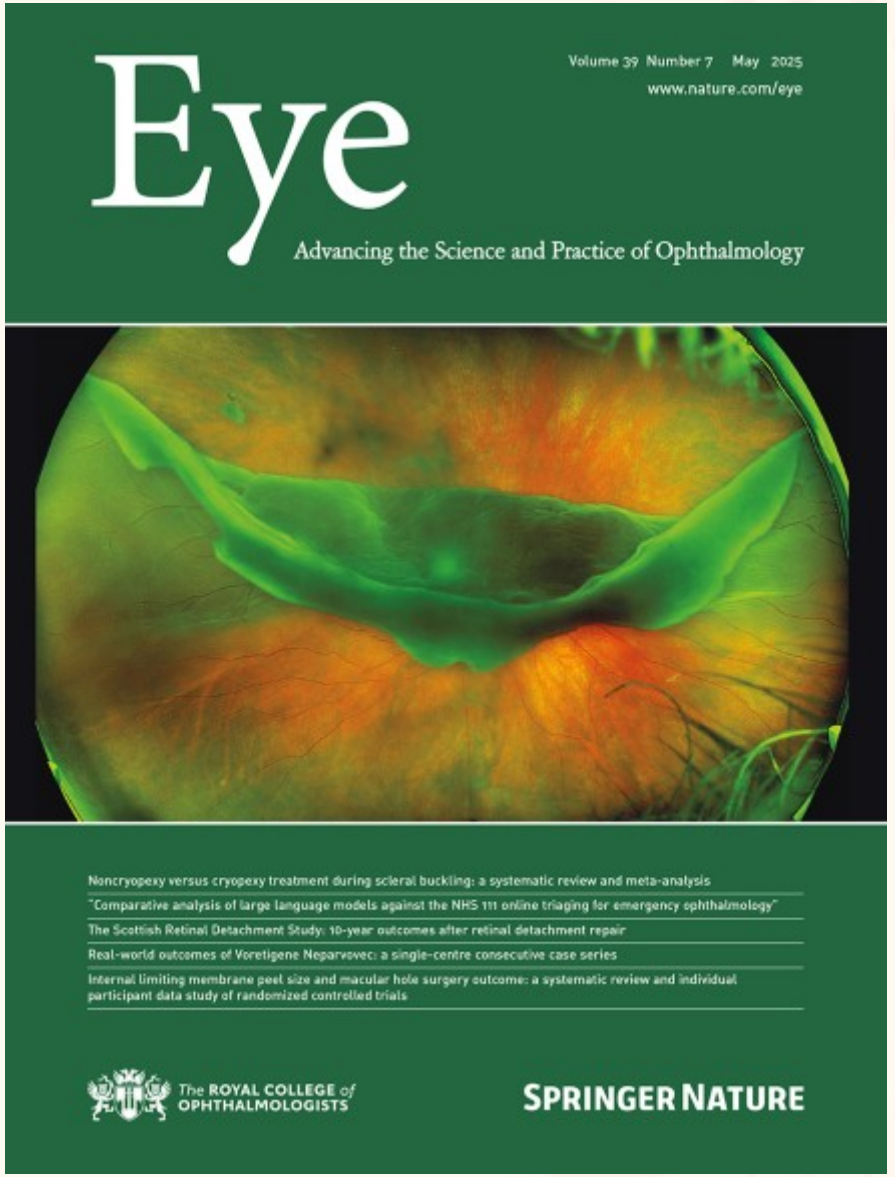
Risk factors affecting visual outcomes following dropped nucleus after cataract surgery

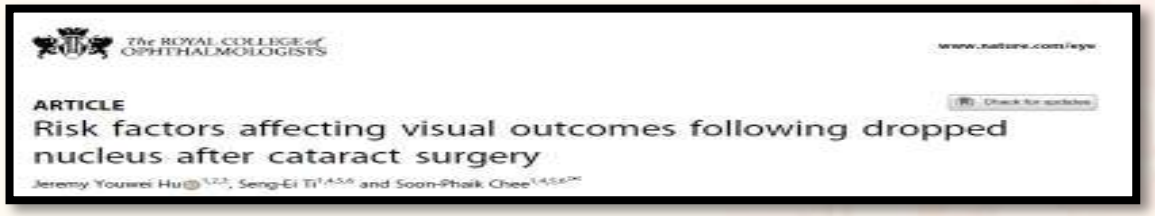
Jeremy Youwei Hu[1,2,3], Seng-Ei Ti[1,4,5,6] and Soon-Phaik Chee[1,4,5,6]✉



- A recent retrospective study (2024) published in the Eye (J of RCO) over a period of 16 years showed an overall incidence of 0.17% (298 cases of dropped nucleus among 169125 phaco surgeries).
- EUREQUO giving an incidence from 0.07 to 1.1 %.

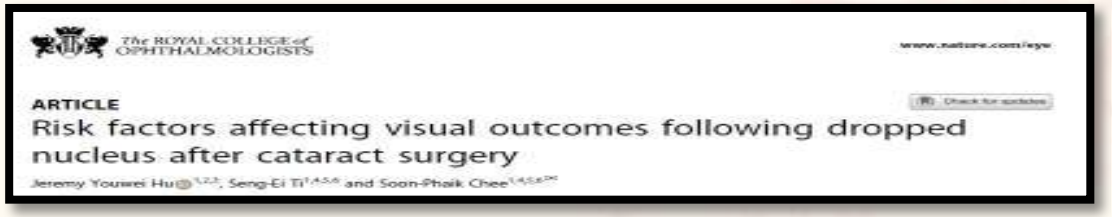
Risk factors:

Comorbidities for dropped nucleus.

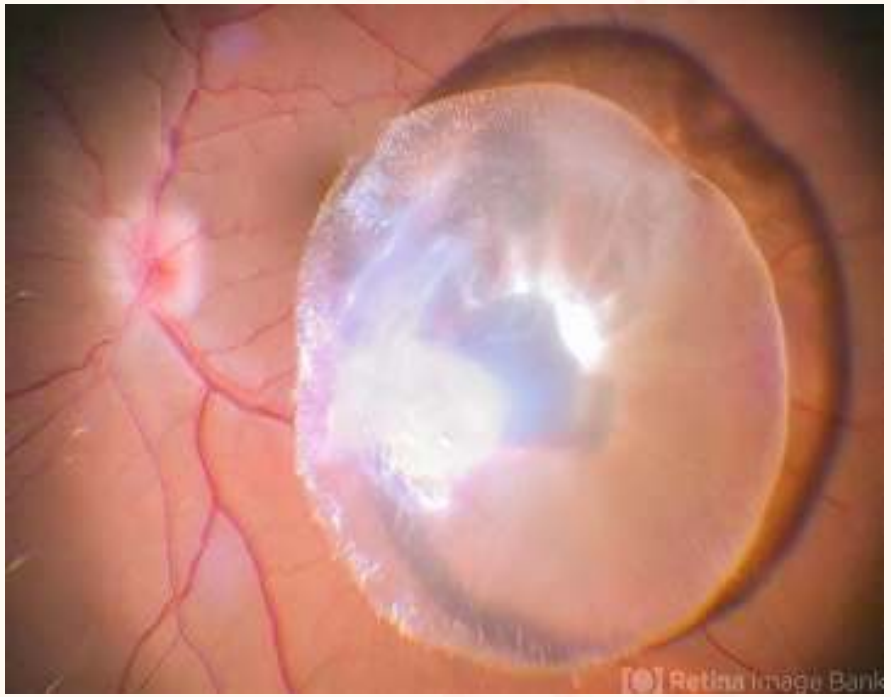


Comorbidities	Frequency	Percentage
Brunescent/ Intumescent / hypermature cataract	68	23.6
Posterior polar cataract	29	10.1
Small pupil	28	9.7
Long axial length >26 mm	26	9
Anterior capsule tear out	20	6.9
Previous vitrectomy	18	6.5
Patient movement	16	5.6
Zonulysis	6	2.1
Pseudoexfoliation	1	0.3
Posturing issue - kyphosis	1	0.3

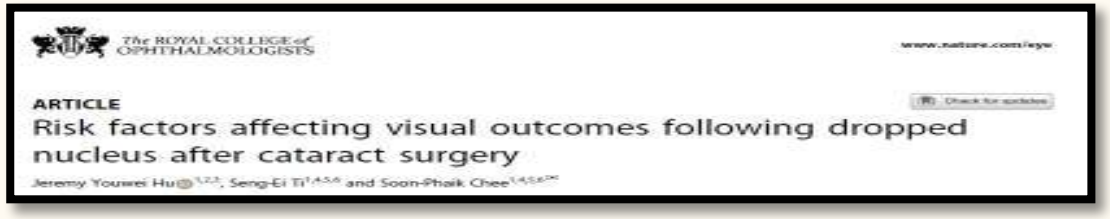
Stage of surgery at which dropped nucleus occurred:



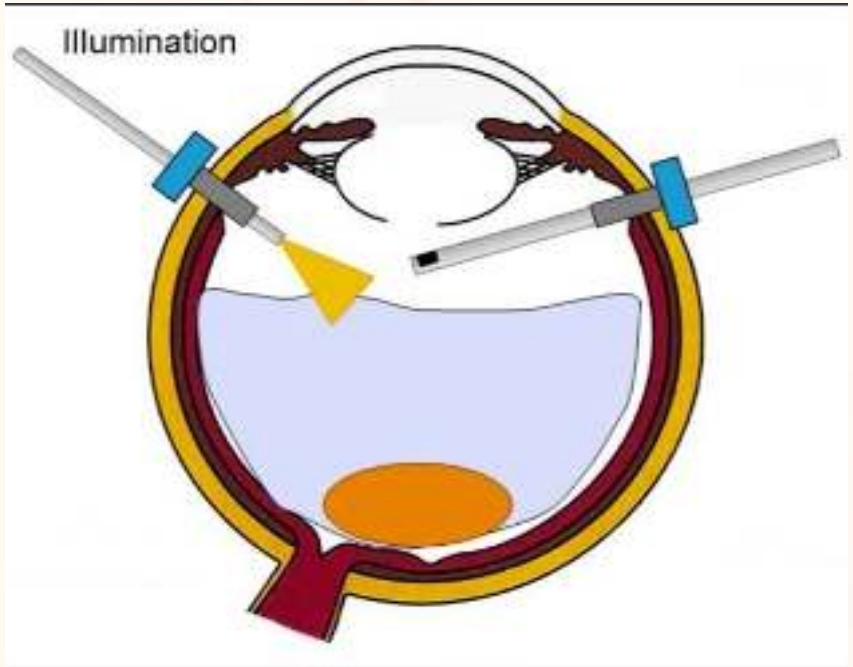
- During phaco 89.64%
- During Hydrodissection 10.36%.



RESULTS



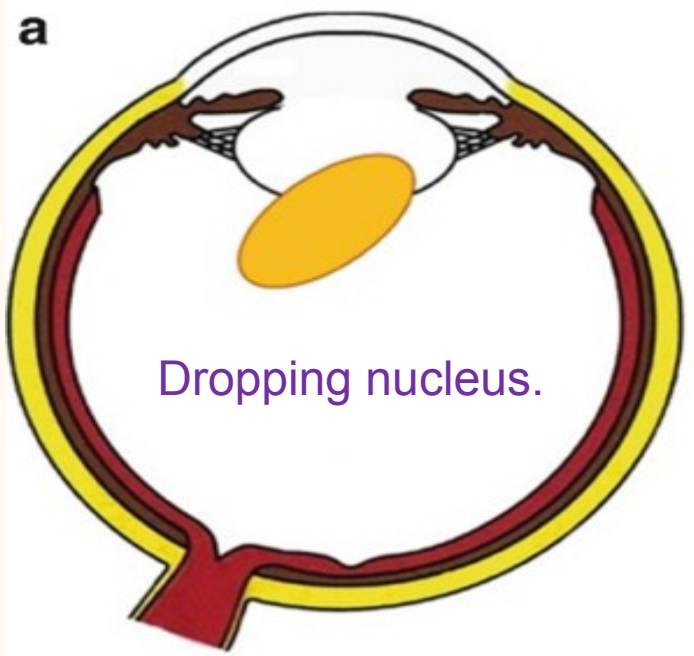
- Statistically significant difference in dropped nucleus rate between residents (0.3%) and experienced surgeons (0.14%) (P<0.001).
- PPV was performed in 87.2% of case.
- Timing of vitrectomy (delayed VS same day) did not influence the final visual success.
- At final examination 85.2% achieved BCVA 20/40 or better.

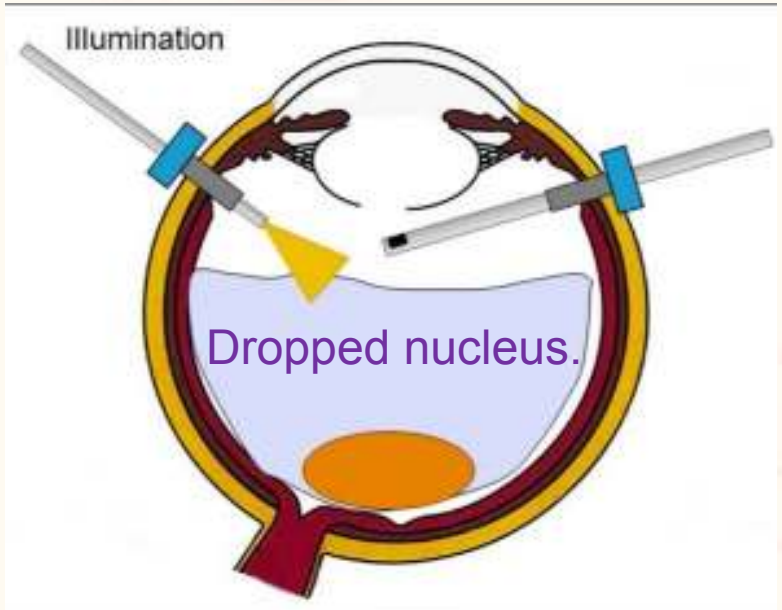


- Stages of dropped nucleus:
  Depending on the integrity of vitreous face and the heath of vitreous gel:

1- The dropping nucleus.

2- The dropped nucleus.

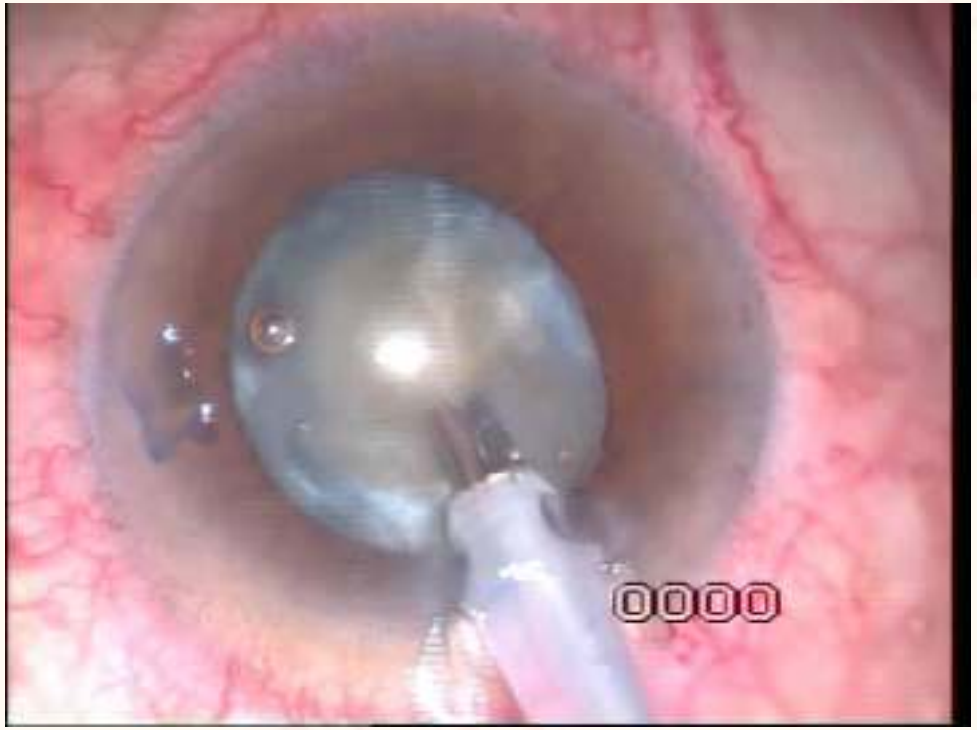


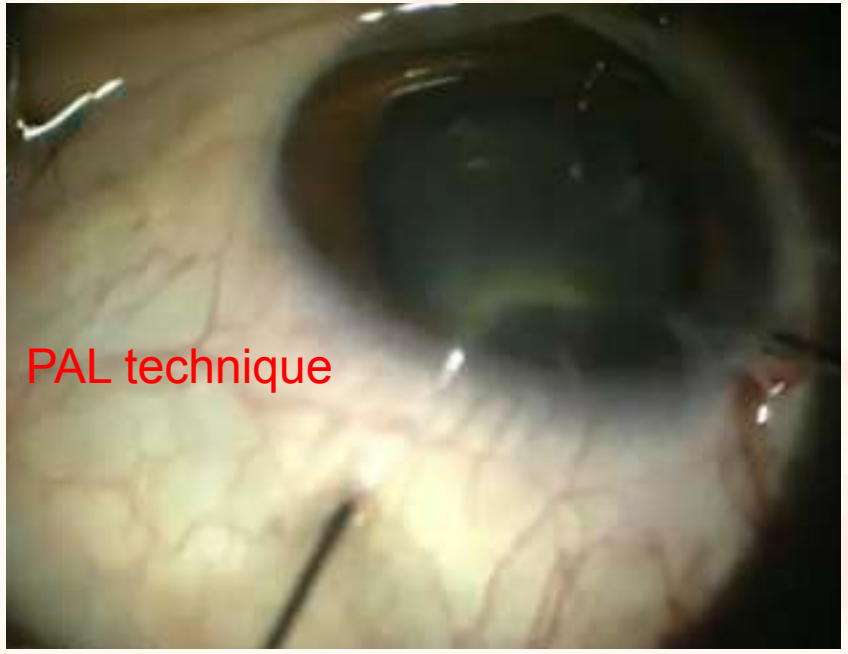


1- The dropping nucleus:

The nucleus is tilting away from the anatomical position to one side of the vitreous.

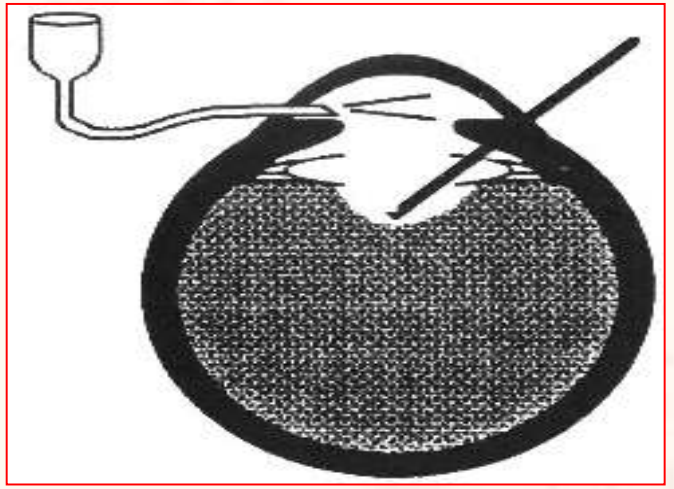
- If this is recognized:
  - Enlarge the incision and deliver nucleus with Vectis.
  - PAL technique where a 25 G needle can be inserted via the pars plana, aiming to go behind the dropping nucleus and the lens elevated forward into the anterior chamber where it can be delivered with the help of a Vectis through an enlarged incision.

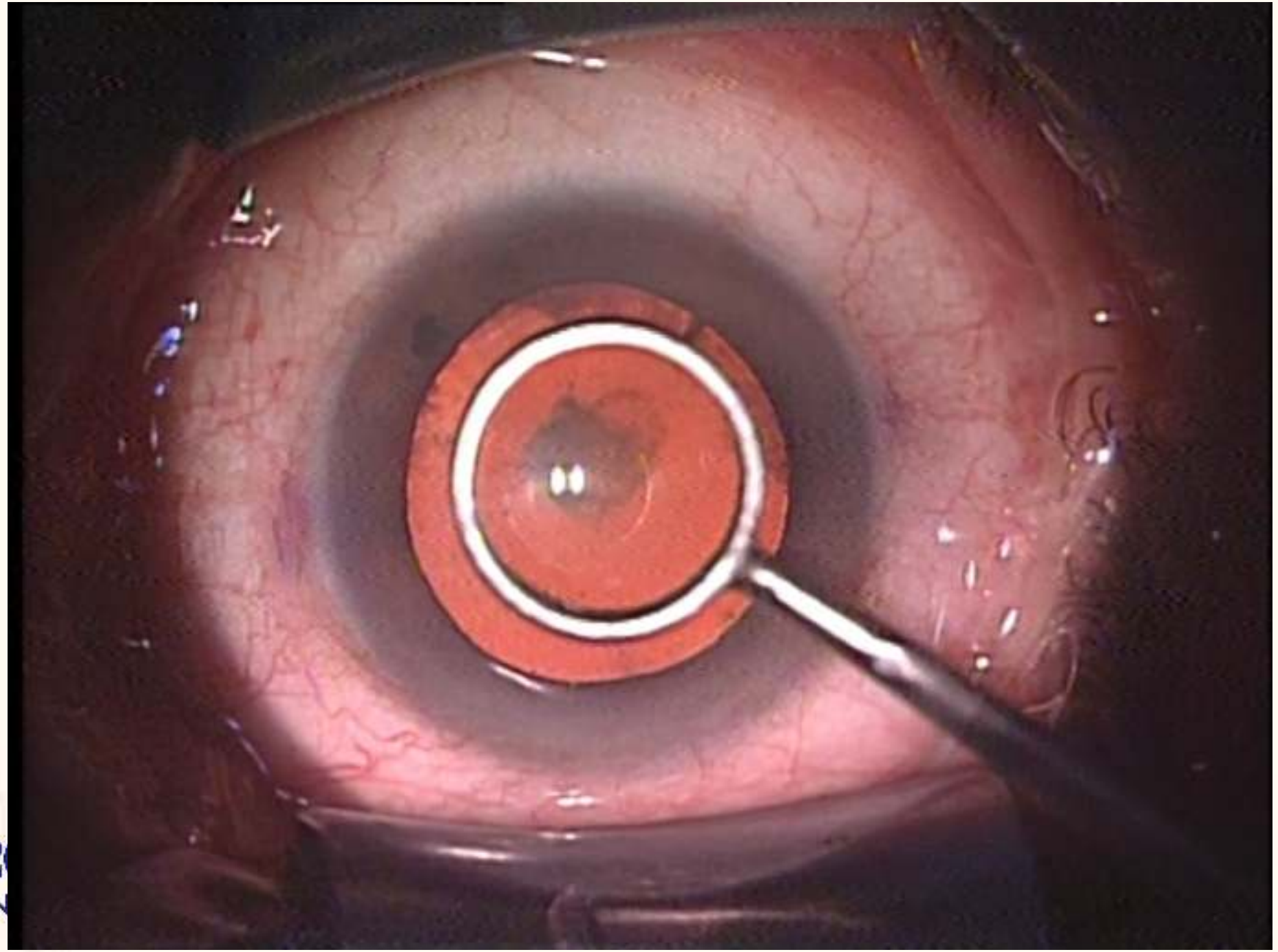




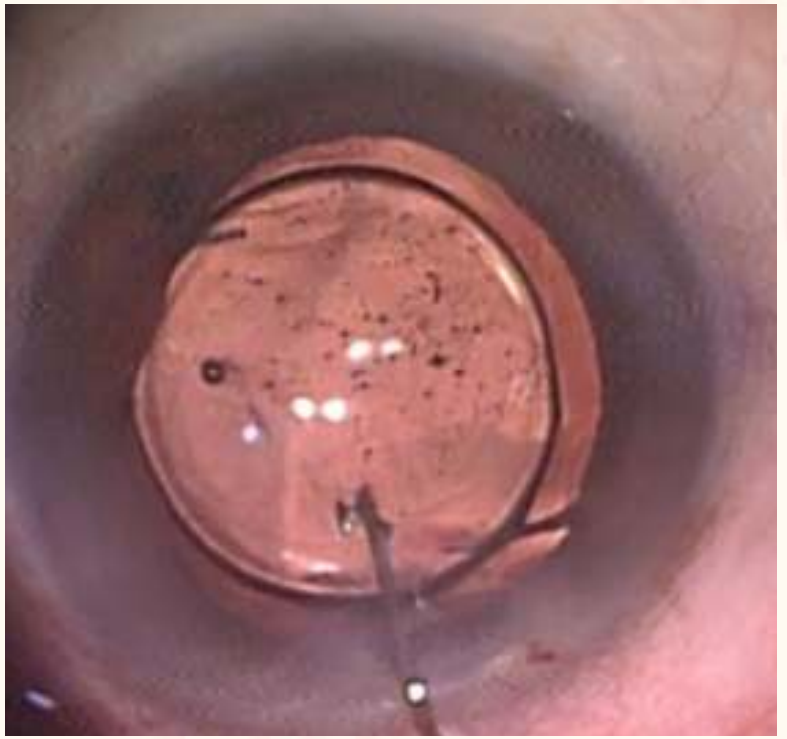
2- The dropped nucleus.

- If the nucleus already dropped to the retina .
- Don’t dive after the nucleus that’s fallen.
- Leave it to fall and rather than focusing on the personal disappointment and feeling defeated, focus on cleaning up residual cortical material and doing the best anterior vitrectomy possible.
- Invite a vitreoretinal colleague to help.

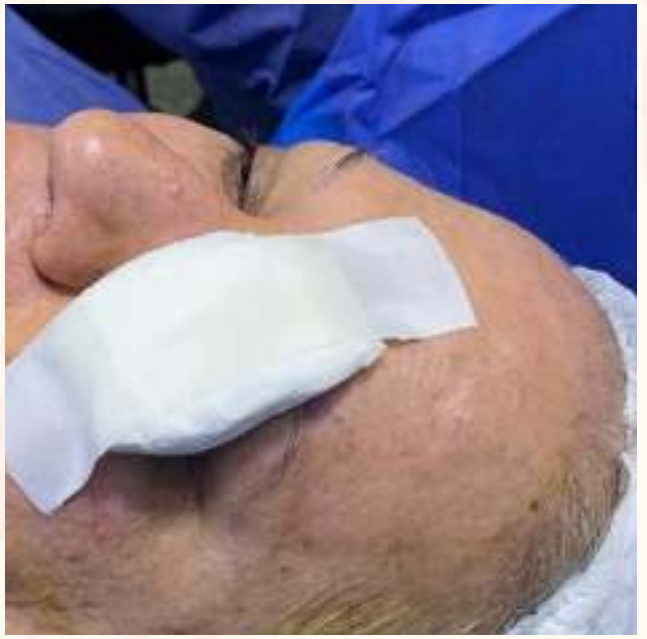




- One good thing is that the capsular bag with an intact capsulorhexis is usually still well supported by the zonules, you can implant a three-piece lens, leaving the haptics in the sulcus and capturing the optic behind the capsulorhexis.



Postoperative patient communication



- In the operating room,

  It’s important to let the patient know that you couldn’t get all the cataract out, but the IOL was implanted.

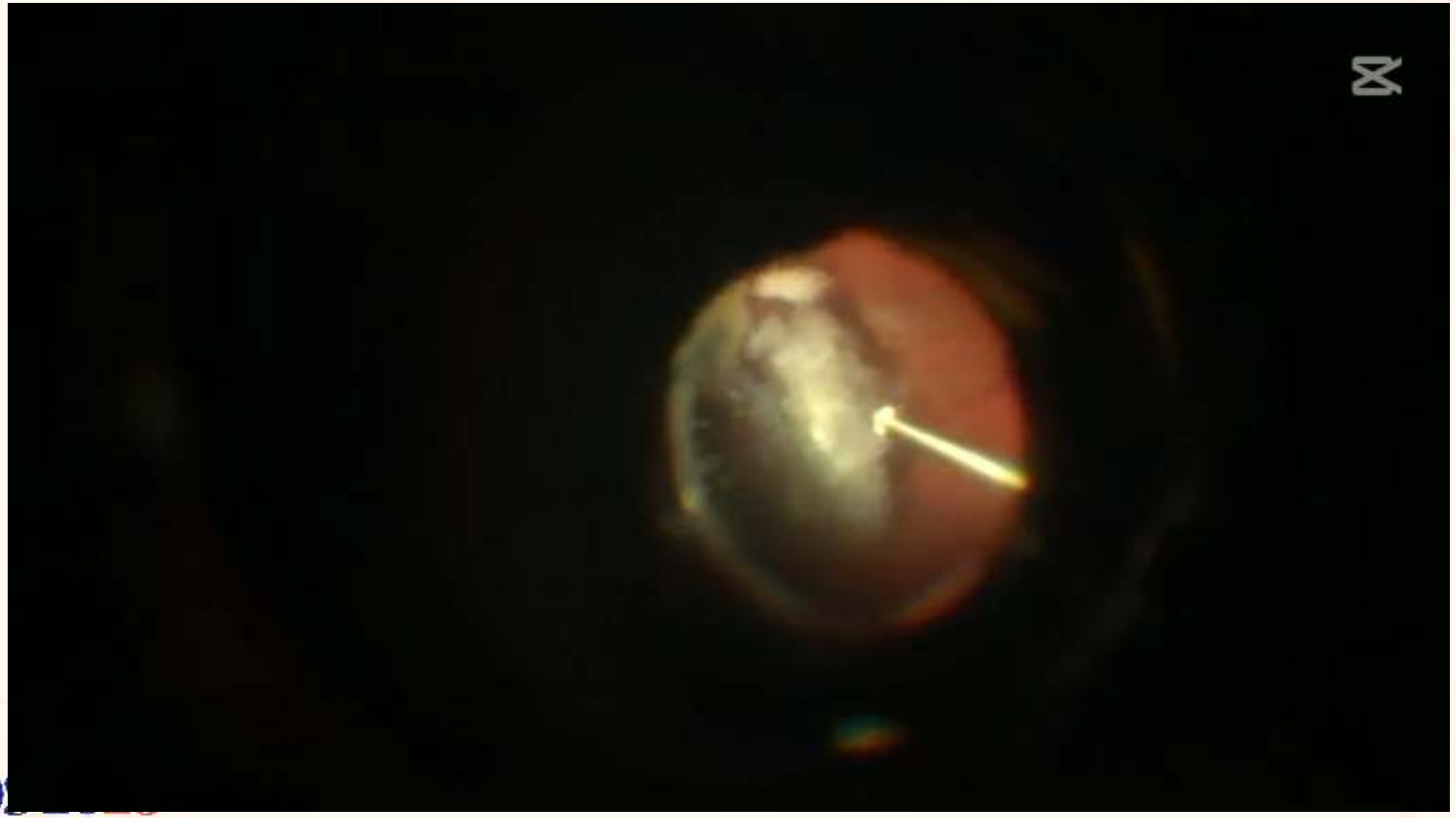
- After the surgery is over,

  Sit down with the patient and explain what happened.

- Continue to communicate,

  Continue to communicate with the patient and be his guide towards vitreoretinal surgery.

- By this way the patient will feel that you are still involved and still care and he will be the most loyal patient.

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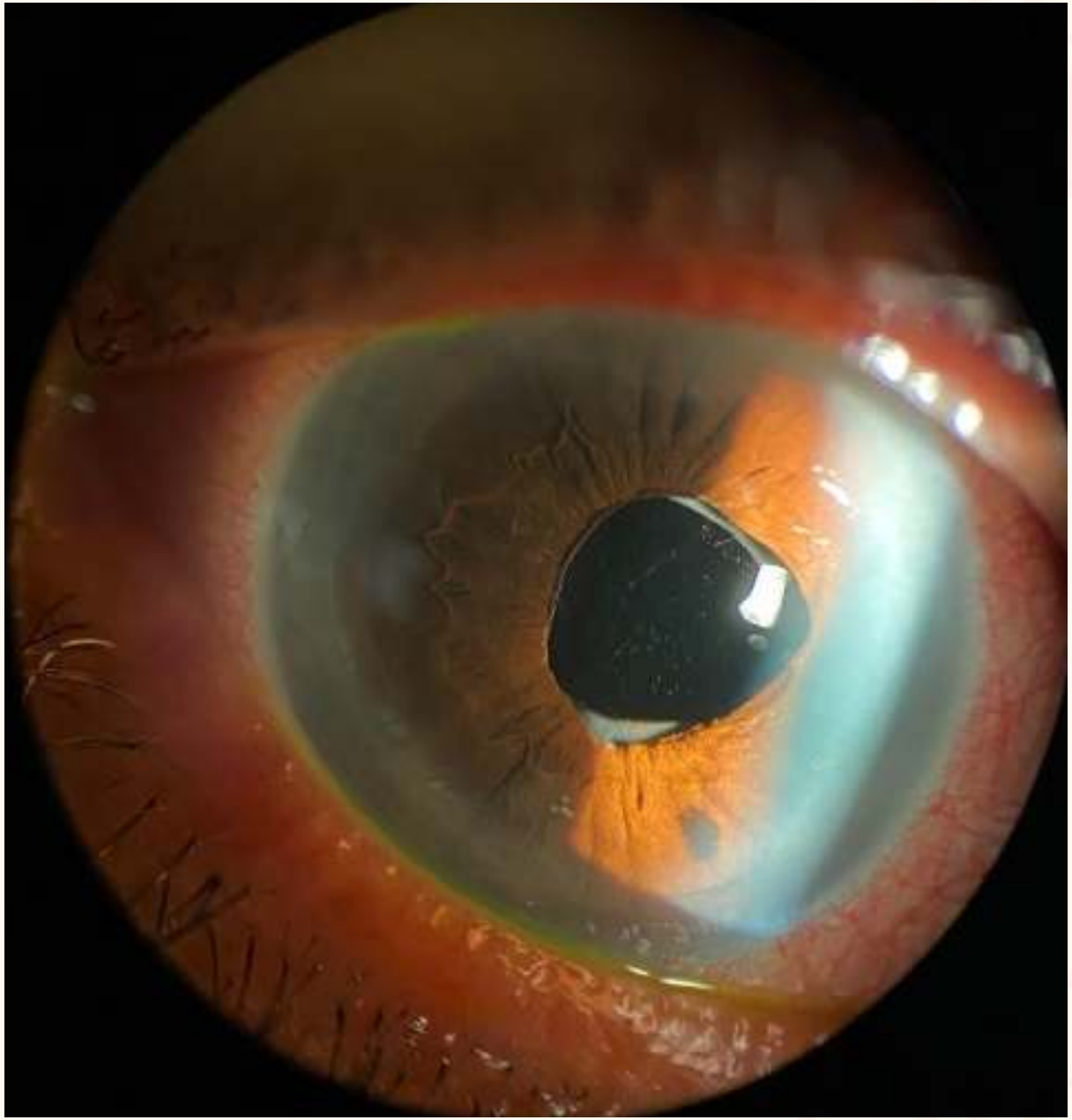

Recommendations

- If you encountered with a case of dropped nucleus leave it to fall,
- Clean the anterior segment and implant a 3-piece IOL.
- communication and sticking to your patient is very important.
- Getting a network of colleagues who can help handle any complication beyond your specialty is very helpful.

THANK YOU!