Use of the Honan Intraocular Pressure Reducer Prior to High Risk Cataract Surgery

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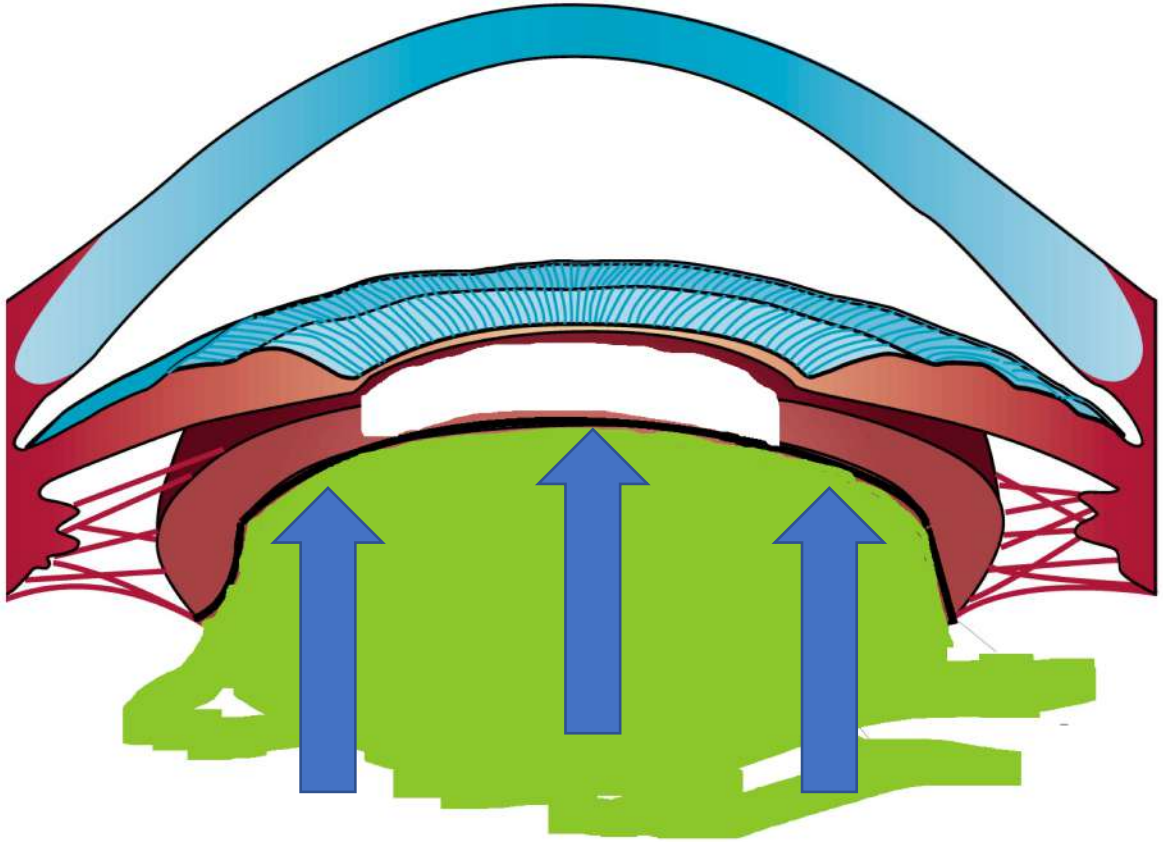
The author has no financial interest in the subject matter of this presentation.

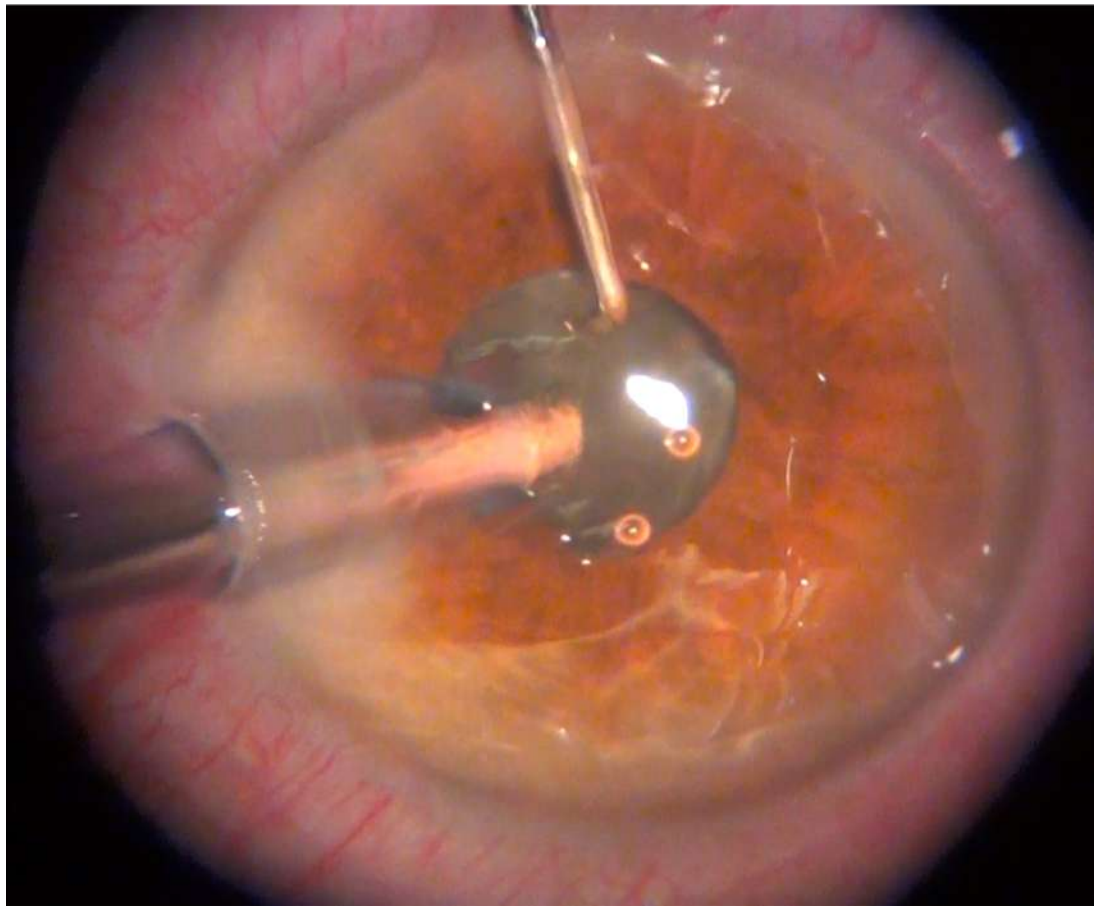
Purpose

- To assess the risk of posterior capsule rupture and vitreous loss when a Honan balloon was used before high risk cataract surgery.
- The secondary purpose, using the National Health Service “Cataract National Dataset”, was to study which specific risk factors were most common in patients in which a decision was made to use the Honan Balloon.

The Cataract National Dataset Electronic multicentre audit of 55 567 operations: risk stratification for posterior capsule rupture and vitreous loss,
N Narendran, P Jaycock, RL Johnston, H Taylor, M Adams, DM Tole, RH Asaria, P Galloway and JM Sparrow,
Eye (2009) 23, 31–37

- Less vitreous pressure may
  - allow more room for hydro-dissection, rotation of the lens, and phacoemulsification
  - decrease the risk of iris prolapse
  - easier removal of cortex from the capsular fornix
    - bimanual technique often a useful adjunct





Methods

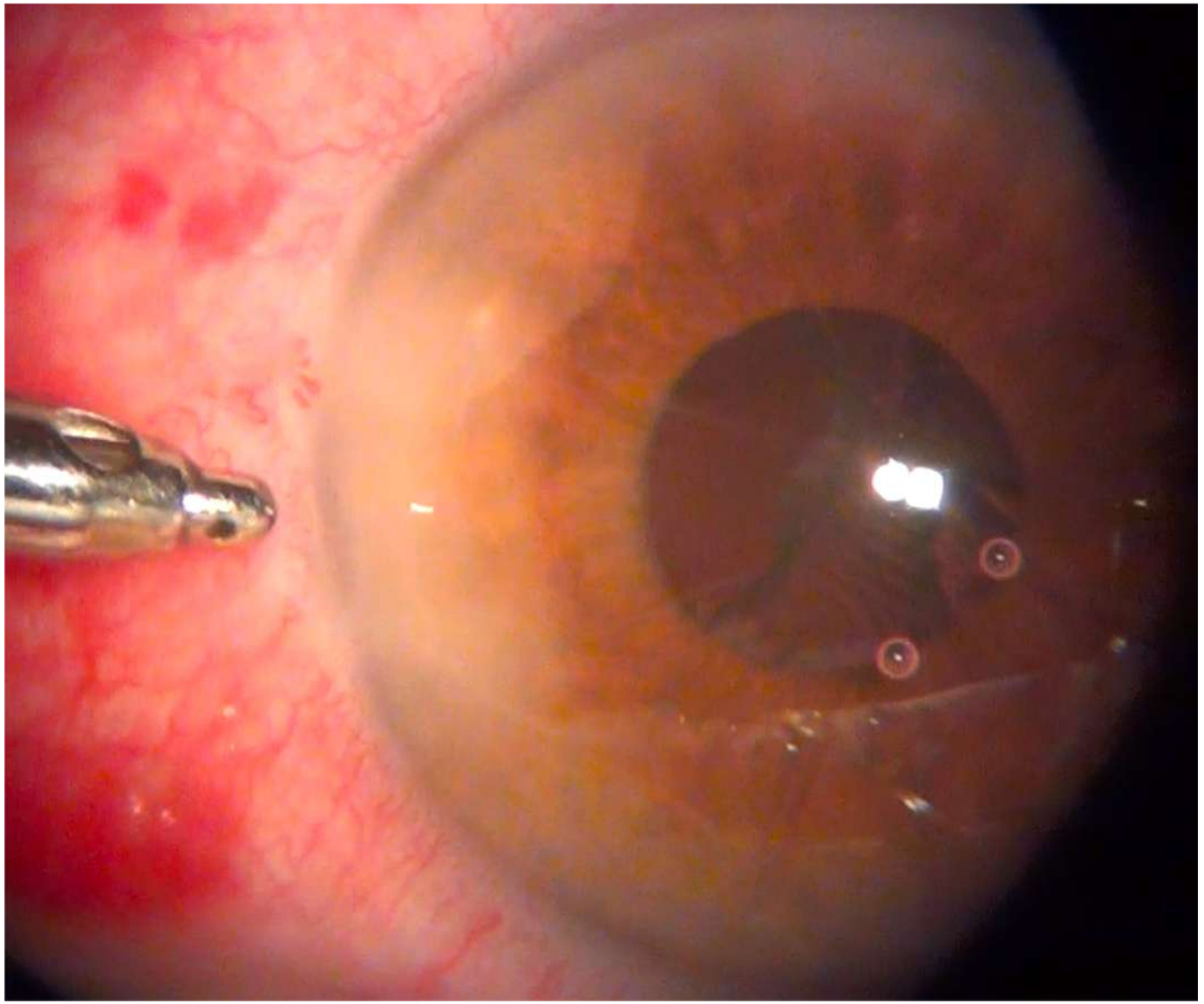
- A prospective study was done of all cataract surgeries by one surgeon over a one year period.
  - After clinical review of the patient and risk factors ,the surgeon made a clinical decision on which patients to use a Honan device.
  - The dilated pupil size was measured at the slit lamp just before surgery.
  - An optical biometer (IOL Master) was used to measure the anterior chamber depth.

Methods

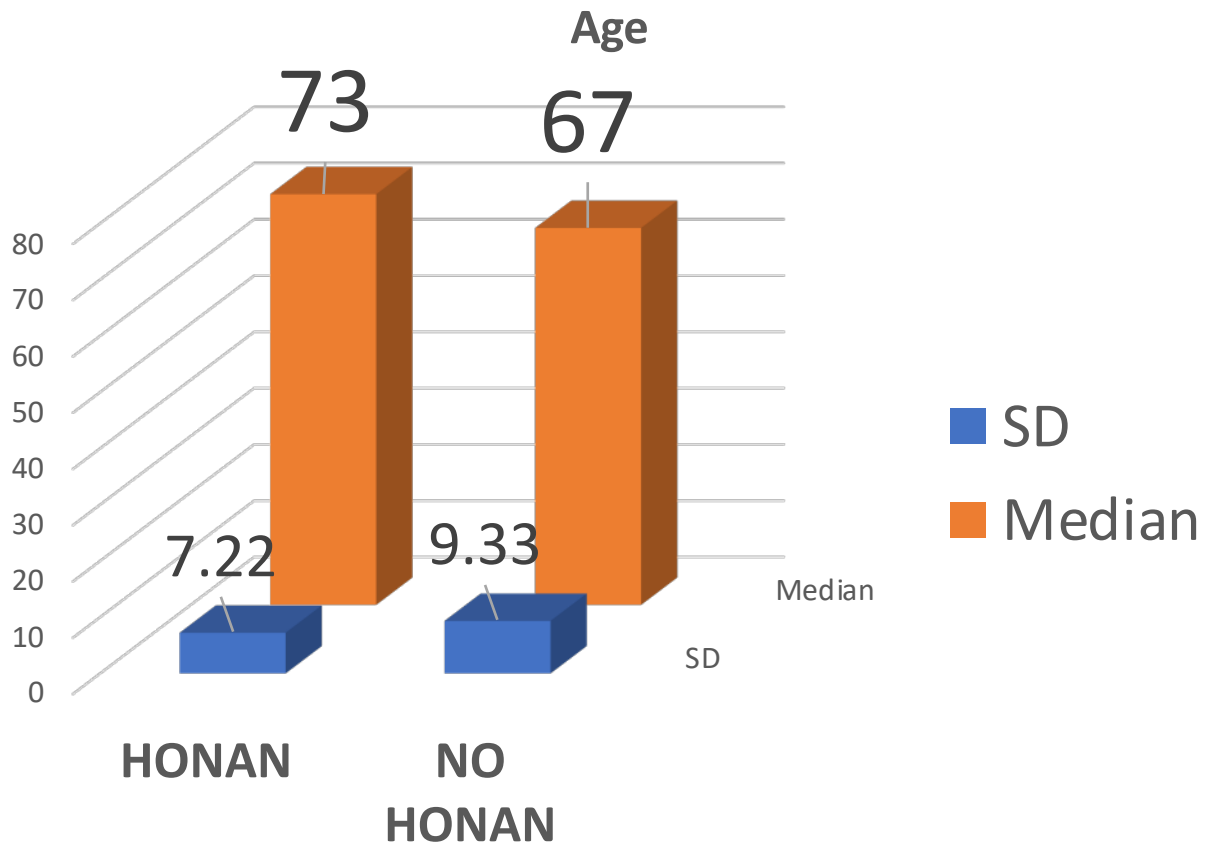
- Selected patients had the Honan balloon applied for 10 minutes at 40 MM Hg just prior to the surgical prep.
- When the Honan was used, non-preserved epinephrine 1% (diluted 1/3 in BSS) was injected into the anterior chamber immediately after making the initial incision.

Results

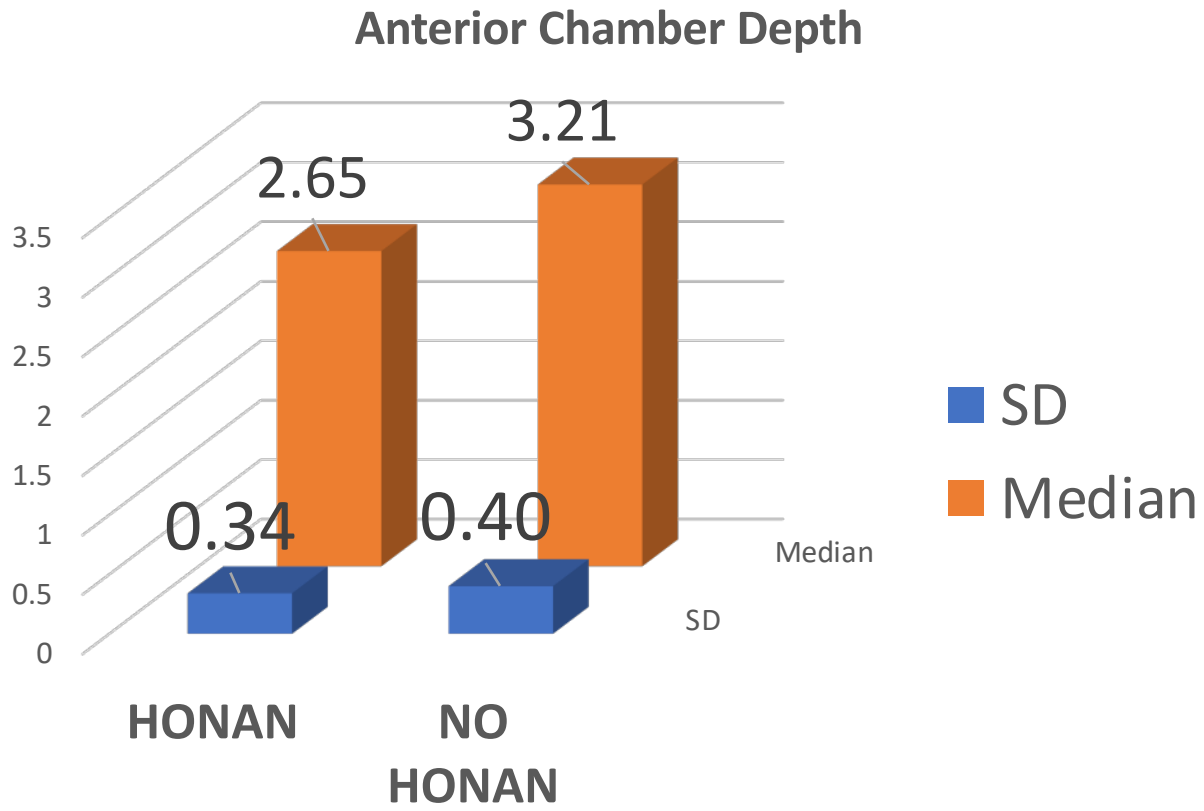
- Of a total of 370 cases, the Honan was used in 58 eyes.
- Honan was more common in males (Odds ratio 1.81,p=0.038).
- Honan group risk factors included:
  - shallow anterior chamber =38,
  - small pupil =27,
  - dense lens=22,
  - α-adrenergic blocker =10,
  - calcium channel blocker =10,
  - PXE =3.



Age:
Honan group significantly older



Anterior Chamber Depth:
Significantly less in the Honan Group

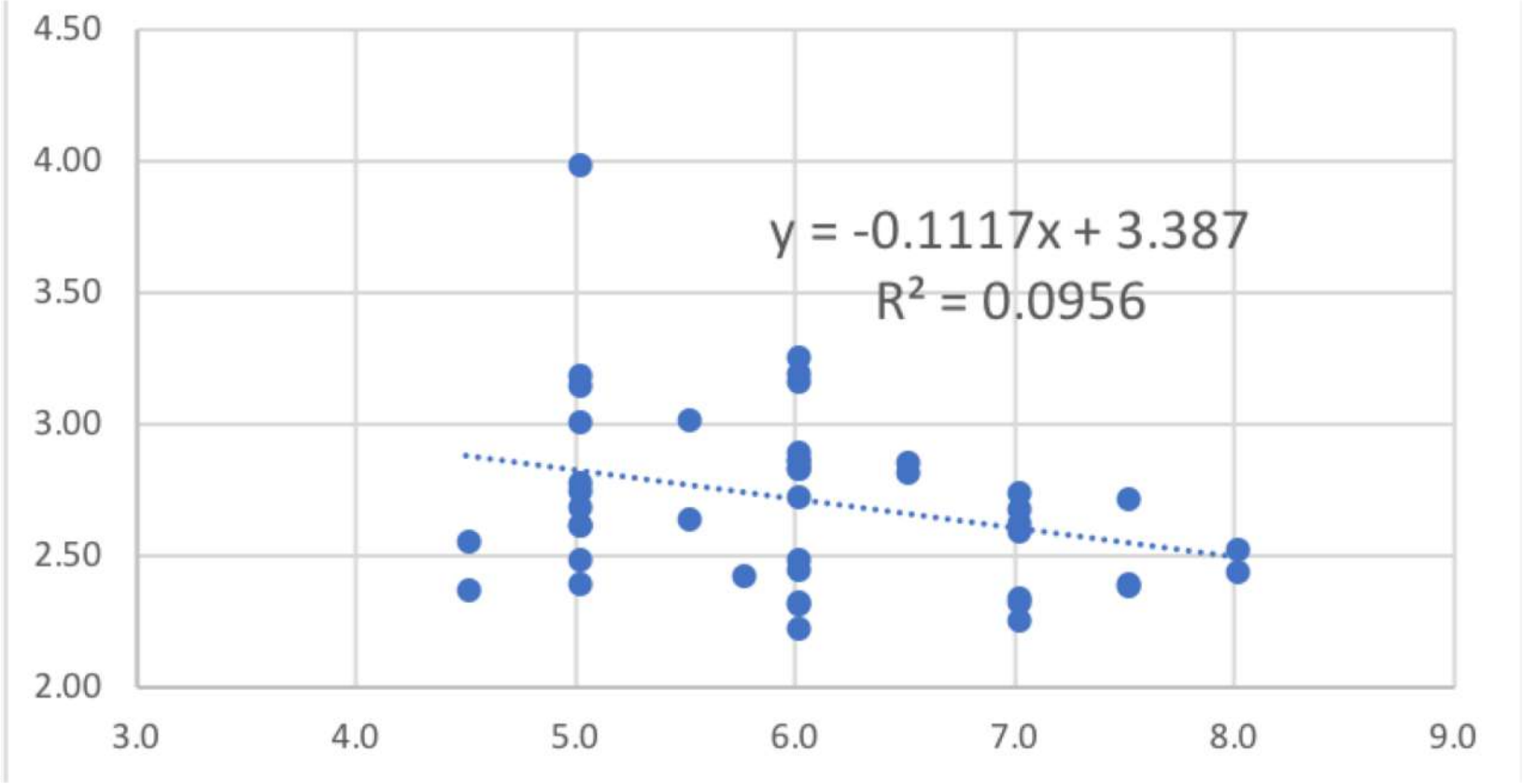


Honan Balloon was typically used with:

Small Pupils and/or Shallow Chambers

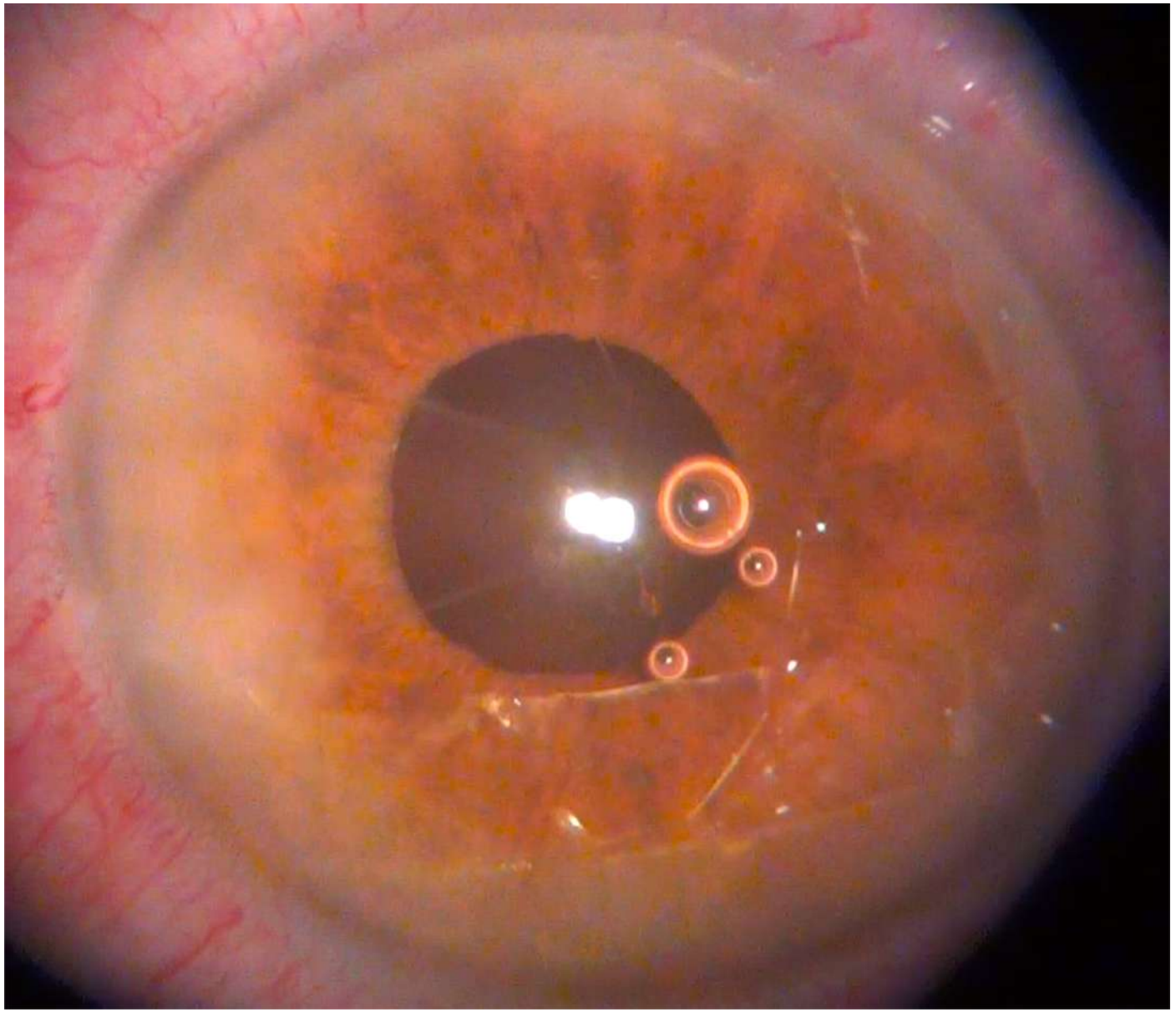
Average Pupil Size: **6.0** mm. SD 1.0

Average AC Depth: **2.65** mm. SD 0.34



Results

- In neither group did iris prolapse occur or was mechanical dilation necessary.
- There were no cases of capsule rupture in the Honan group.
- In the Non-Honan group, one eye with phacodonesis required an anterior vitrectomy.



Conclusion

- The Honan balloon is a safe adjunct in complex cataract surgery.
- The cases selected for Honan use were more likely to have a shallow anterior chamber, a smaller pupil, be older, and be male.
- The use of the Honan balloon should be considered in cases that are at higher risk for capsular rupture during cataract surgery.