

When Laser Meets Lens: Navigating the Path to Vision Restoration

Case Presentation:

- 41-year-old female with bilateral iris-fixated phakic IOL implantation 20 years ago for high myopia.
- Referred from a local optometrist to the Yag laser clinic requesting Nd:YAG laser posterior capsulotomy
- She presented with visual acuity of 6/9 in both eyes, and underwent inadvertent bilateral Nd:YAG laser capsulotomy led to rupture of both posterior lens capsules, resulting in iatrogenic cataract and immediate vision loss.
- On presentation to our vitreoretinal service and the visual acuity was **hand movements** in both eyes. Post laser examination revealed intact anterior capsule, and white disorganized cataract partially prolapsed into the vitreous cavity. B-scan ultrasonography revealed flat retina, no posterior vitreous detachment and hyperreflective echoes in the vitreous cavity in both eyes.

Surgical Plan:

- Urgent **delayed sequential bilateral** pIOL removal, 23G pars plana vitrectomy (PPV) and lensectomy, and sulcus-fixated three pieces IOL implant (Sensor AR40e, AMO, USA) was planned
- IOL power was calculated by merging the A-scan (PAC SCAN 300AP; Sonomed Escalon, USA) measurement of the axial length with the keratometry reading from the optical biometer (IOLMaster 500 Carl Zeiss Meditec, Germany) into the SRK-T formula aiming for **minimonovision**.

Results:

- At the 12-month follow-up:
RE CDVA 20/20 (0.0 logMar)
RE subjective **refraction**: +0.75 sph / -1.25 cyl @110° (SE: +0.125 D)
LE CDVA 20/20 (0.0 logMar)
LE subjective **refraction**: -0.75 sph / -1.50 cyl @95° (SE: -1.50 D)

Well-centred IOLs and flat retinas in both eyes and satisfied patient.

Discussion

- The initial misfire of bilateral Yag laser capsulotomy had life-changing effects.
- While we had initial concern about the biometry, ultrasound AL measurements and SRK-T formula provided favourable outcome in our patient undergoing bilensectomy (pIOL removal and cataract extraction).
- It is plausible that in this case, the routine nature of YAG laser treatment may have introduced confirmation bias in the actions of the ophthalmologist. **Confirmation bias** is the tendency to give greater weight to data that support a preliminary diagnosis while failing to seek or dismissing contradictory evidence. This can occur when a physician refuses to consider alternative diagnoses once an initial diagnosis has been established, despite contradicting data.
- When performing procedures on both eyes, it is always recommended to take an additional time-out before commencing on the second eye.

Conclusion and take home message

- The case underscores the critical importance of maintaining gold standard medical care at all times with correct preoperative evaluation and communication with patients and ensuring informed consent before proceeding with any therapy.
- Even when errors occur, timely surgical intervention can restore vision.

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References:

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