

# Modified intralenticular lens aspiration for novice surgeons

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## DESCRIPTION

Intralenticular lens aspiration (ILLA) has been described in patients with extensively subluxated crystalline lenses to achieve lens aspiration within the capsule, without any risk of lens matter falling posteriorly.<sup>1 2</sup> The capsular bag is stabilised with the irrigation cannula's aid, which brings the area of interest into the surgeon's focus and hydrates the lens fibres, while the aspiration cannula performs the lens aspiration. However, this technique is challenging for a beginner surgeon as it involves bimanual hand-eye coordination under the microscope and assessment of the appropriate amount of traction to be applied with the irrigation cannula in this manoeuvre. Moreover, the visibility of the surgical field is dependent on the surgeon's hand movements and is not stable throughout the surgery.

We performed ILLA by modifying the technique and using a coaxial irrigation aspiration (IA) hand-piece for the lens aspiration while stabilising the bag with a capsular hook. This step makes the surgeon's non-dominant hand free for stabilising the globe. It is simpler than a bimanual procedure, and lens stability is maintained throughout.

A 16-year-old woman with Marfan syndrome presented with corrected distance visual acuity 20/40 right eye and 20/25 left eye. On dilation, both eyes had superonasal subluxation of the crystalline lens. The right eye was planned for modified ILLA with scleral fixated intraocular lens (SFIOL) implantation.

The conjunctiva was dissected at 3 o'clock and 9 o'clock position, and the sclera was cauterised. On both sides, lamellar scleral flaps were created using a crescent blade, followed by scleromies under the flaps.<sup>3</sup> A viscodispersing agent (Viscoat; Alcon Laboratories) was injected in the area of absent lens to tamponade the anterior vitreous. Then, 0.1 mL of trypan blue 0.06% (Visiblue) was injected under air with a sideways sweeping motion of the tip over the lens to prevent the dye from seeping into the vitreous and obstructing the red glow. A small capsulorrhexis of 1.5–2.0 mm in size was created on one side with a microrrhexis forceps (Microsurgical Technology), and a cohesive viscoelastic was injected into it to create space, followed by insertion of a capsular hook (Capsule Care, Madhu Instruments) from a 7 o'clock clear corneal incision. This helped to centre and stabilise the capsular bag. Another microrrhexis of 3.5–4 mm was created on the other side by the same technique. Balanced salt solution was injected through the larger opening to achieve a gentle hydromanoeuvre. A 3.2-mm clear corneal incision was created, and a coaxial IA hand-piece



**Video 1** Modified coaxial intralenticular lens aspiration.

was used to achieve complete lens aspiration. A vitrectomy cutter (Centurion system, 25 G, Alcon Laboratories) was used to remove the capsule, and a limited anterior vitrectomy was performed. Implantation of SFIOL was done with the handshake technique. The haptics were tucked in the scleral pockets, and scleral flaps and conjunctiva were closed with fibrin glue (Tisseel, Baxter Healthcare Corp). Stromal hydration was performed to close the paracentesis, and 3.2-mm incision was sutured (video 1).

However, this technique requires careful attention to the amount of traction used during insertion of the capsular hook as excessive pull may lead

## Learning points

- ▶ Intralenticular lens aspiration (ILLA) is challenging for a novice surgeon as it involves bimanual dexterity under the microscope in an extensively subluxated lens with inadequate zonular support and the visibility of surgical field is not constant.
- ▶ In the current modification of ILLA, using a capsular hook through a microrrhexis stabilises the capsular bag and allows the use of coaxial irrigation aspiration through the second microrrhexis.
- ▶ The surgeon's non-dominant hand is free to perform other manoeuvres and stabilise the globe, while the capsular bag visibility remains constant throughout surgery.



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to tears in the edge of microrrhesis. The sizing of the microrrhesis also needs to be adequate for insertion of the coaxial IA handpiece.

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### REFERENCES

- 1 Sinha R, Sharma N, Vajpayee RB. Intralenticular bimanual irrigation: aspiration for subluxated lens in Marfan's syndrome. *J Cataract Refract Surg* 2005;31:1283–6.
- 2 Sahay P, Maharana PK, Shaikh N, et al. Intra-lenticular lens aspiration in paediatric cases with anterior dislocation of lens. *Eye* 2019;33:1411–7.
- 3 Sinha R, Shekhar H, Gantyal SP, et al. Haptic placement of posterior chamber intraocular lens in fibrin glue-assisted intrascleral fixation. *J Cataract Refract Surg* 2013;39:1779–80.

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