Endoscopy-assisted microinvasive glaucoma surgery in a patient with corneal opacity and glaucoma

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DESCRIPTION
A woman in her mid 40s presented to our clinic with diminution of vision in her right eye for 1 year. The patient had leucematous corneal opacity involving the visual axis with pseudophakia, best corrected visual acuity of 3/60, and intraocular pressure (IOP) of 26 mm Hg (figure 1) on timolol and brimonidine. The anterior chamber was shallow but angle structures were not visible on gonioscopy due to the media opacity. The patient was diagnosed with right eye healed keratitis with secondary glaucoma, and plans were made for endoscopic angle evaluation and subsequent surgery. A 23 gauge probe used with an endocyclophotocoagulation unit (Endo Optiks, Little Silver, NJ, USA) was inserted into the anterior chamber through the main port used for phacoemulsification and used to visualise the anterior chamber angle under a cohesive viscoelastic preparation (sodium hyaluronate).1 The examination revealed synechial closure of the angle with the iris occluding the trabecular meshwork (TM) (figure 2A). Goniosynechialysis was undertaken using an iris repositor to expose the TM, followed by an ab interno needle goniotomy using a 26 gauge needle to strip off the TM (figure 2B,C).2 In the postoperative period, the IOP was 14 mm Hg with one medication (timolol) at 3 months’ follow-up with no change in the visual acuity.

The presence of corneal opacity has been a major limiting factor while performing ab interno surgery for glaucoma management. This case highlights how an endoscope probe with illumination available with an endocyclophotocoagulation unit can be used for visualisation, and subsequent ab interno procedures can be performed for IOP control in eyes with corneal opacity. In cases where gonioscopy is otherwise possible, a highly magnified endoscopic image may complement gonioscopy. This opens up new possibilities of ab interno minimally-invasive glaucoma surgery in eyes with corneal opacity and glaucoma.

Learning points

► Corneal opacity is a major limiting factor for ab interno minimally invasive surgery.
► This report highlights how endoscopy guided ab interno minimally invasive surgery can be performed in eyes with corneal opacity.

Contributors TD was involved in conceptualising the technique, performing the surgery and approving the final manuscript. SV was involved in preparation and subsequent modifications of manuscript. AN and NC was involved in data acquisition and intellectual input.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s)

Provenance and peer review Not commissioned; externally peer reviewed.

Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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