Readhesion of trabecular meshwork strip post ab-interno needle goniectomy in primary open angle glaucoma

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DESCRIPTION

Minimally invasive glaucoma surgeries like bent ab-interno needle goniectomy (BANG) or Kahook Dual blade excisional goniotomy involve stripping of the trabecular meshwork to allow the direct access of aqueous humour into Schlemm’s canal and to lower the intraocular pressure (IOP).1 2

Here we present a unique finding in a primary open angle glaucoma patient, who underwent bent ab-interno 26G needle goniectomy (BANG) combined with phacoemulsification cataract surgery. Although the IOP was initially in the low teens after surgery, we found an increase in IOP at 6 months follow-up to 26 mm Hg which required ocular hypotensive therapy. Gonioscopy was performed to view the site of goniectomy and revealed a crumpled strip of Trabecular meshwork (TM) which had readhered to its original location blocking the canal (figure 1A), and this was further confirmed on anterior segment Optical Coherence Tomography (OCT) (figure 1B). On reviewing the surgical video of the same patient, we identified a large strip of TM floating in the anterior chamber, which was left in situ without removal (figure 1C,D).

To prevent this reattachment of TM after Minimally invasive glaucoma surgeries (MIGS) procedures which involve stripping of the TM, we recommend cutting of the TM strip using micro vitreoretinal scissors which ensures patency of the canal in the postoperative period (figure 2A,B,C,D). Another option is to pierce the TM creating an initial cut and then stripping.

Patient’s perspective

I am happy post operation and congratulations to my doctor. He took really good care of me and quickly identified the cause for post operative rise in IOP and resolved.

Learning points

► In minimally invasive glaucoma surgeries, which stripping of the trabecular meshwork, cutting off the strip of TM and its removal is mandatory to prevent reattachment of the TM strip to its original position.
► This technique helps to prevent early failure of surgery.
the adjacent TM up to the cut to create a free-floating strip which can be removed with a forceps.

In conclusion, while performing ab-interno goniotomy/goniectomy and stripping of the TM, there is a risk of readhesion of the TM. Cutting of the TM at both ends to remove the TM strip is recommended to prevent the reattachment of the TM and failure of surgery.

Contributors TD performed the surgery and intellectual input of modified surgery and approved the final manuscript. ANB involved in data acquisition, manuscript drafting, preparation, intellectual input and approved the final manuscript. SV involved in intellectual input and final manuscript approval. SJ involved in data acquisition, intellectual input and final manuscript approval.

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Competing interests None declared.

Patient and public involvement statement Many congratulations to my doctor. He quickly identified the cause for post surgical rise in IOP and efficiently resolved. I am quite happy with the post operative maintained target IOP.

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

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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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