

Goniotomy

Goniotomy is the treatment of choice in Primary Congenital Glaucoma where the cornea allows satisfactory visualization of the angle. The exact mechanism of action remains unknown. The advantages and disadvantages of goniotomy are summarized in following table.

Although goniotomy is simple in concept and brief in execution, it is a difficult procedure to perform requiring considerable experience and rare surgical skills.

Adequate visualization of the angle is the key to successfully performing this procedure. Epithelial debridement with absolute alcohol provides an adequate view of the angle to allow goniotomy in more than 90% of Caucasian patients. To be performed safely, general anesthesia, an operating microscope, a contact lens (e.g. Barkan lens), and a tapered goniotomy blade are required (Fig. 1). If there has been a reasonable but suboptimal lowering of IOP after the first goniotomy, it can be repeated in the nonoperated part of the angle.

Direct visualization of the angle allows precise location of the incision making it less traumatic than trabeculotomy. Potential complications include lens and corneal damage, inadvertent iridodialysis, or cyclodialysis and scleral perforation.

Goniotomy is a very effective operation, with success following multiple goniotomies usually ranging from 70% to 90% with medium term follow-up. However, these eyes are at risk of relapsing at any stage. Russell-Eggitt et al. reported a 20% relapse rate over a 30-year period with no peak age of relapse, emphasizing the importance of lifelong follow-up. The surgical prognosis of goniotomy is influenced by the age of manifestation; infants presenting between the ages of 3 to 6 months have the best prognosis.

The outcome of Goniotomy for Primary Congenital Glaucoma has been studied and reported in Ophthalmology 2011.

Advantages and disadvantages of goniotomy
Advantages
Does not violate conjunctiva and prejudice success of future surgery
Direct visualization of angle allows precise location of incision
Less traumatic and safer
Rapid and can be repeated
No long-term risk of bleb related complications
Disadvantages
Not possible if details of angle structures not visible
Technically demanding with considerable surgical experience
Requires special instruments
Discomfort for first few days if epithelium has been stripped

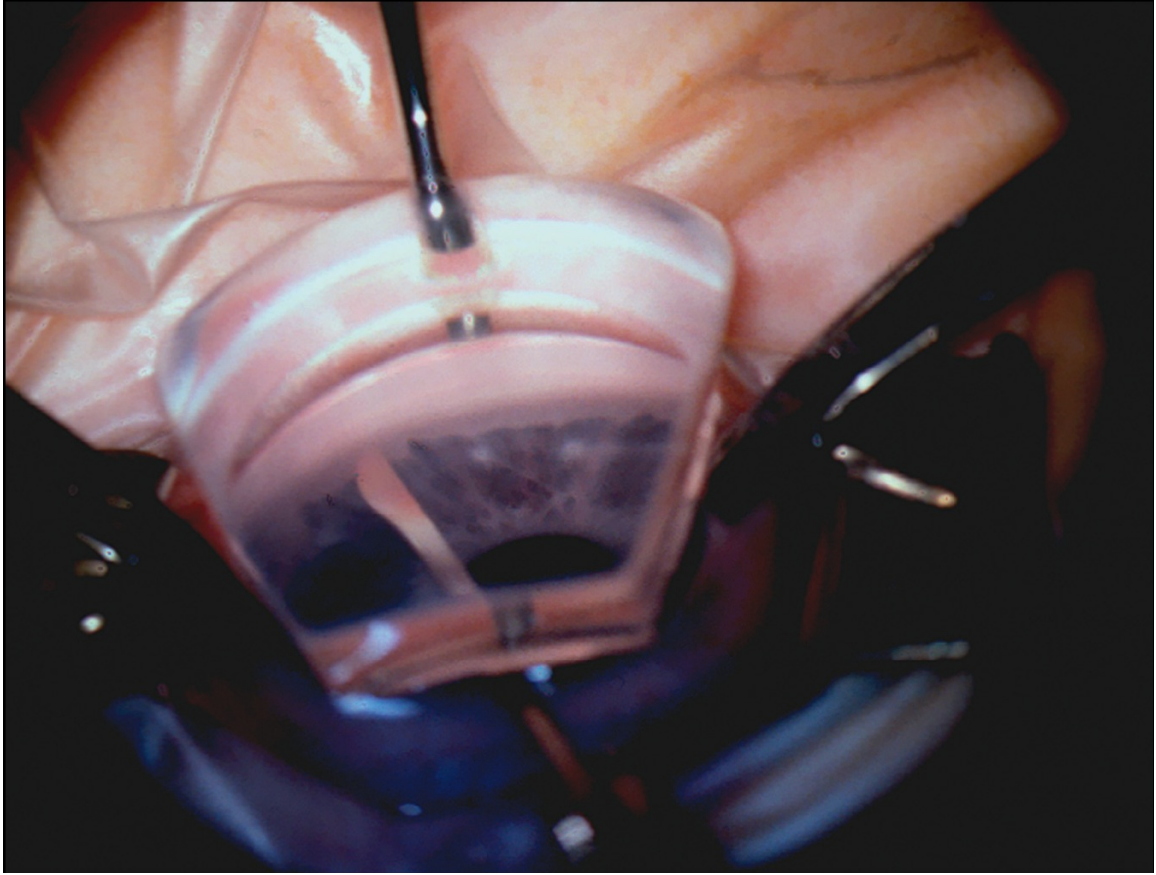


Fig. 1 Goniotomy performed in primary congenital glaucoma.