

☒ **In patients with juvenile-onset chronic open-angle glaucoma, trabeculectomy with mitomycin C is usually required to prevent progressive visual loss**

The Science behind the Tip

Juvenile-onset chronic open-angle glaucoma is inherited in an autosomal dominant fashion with high penetrance. Approximately 10 - 20% of cases are associated with mutations in the myocilin gene on chromosome 1q21-31¹.

Patients present between 10 and 35 years of age and are often myopic. Typically an intraocular pressure (IOP) as high as 50 mm Hg may be found, with marked elevations and reductions of IOP over time². Rapid optic disc damage and visual loss can follow, so these patients should be extremely carefully monitored.

Topical medication to reduce the IOP is the initial therapeutic option, but is usually ineffective. Trabeculectomy with mitomycin C should be undertaken at an early stage to prevent visual loss³.

References

1. Sud A, Del Bono EA, Haines JL, et al. Fine mapping of the GLC1K juvenile primary open-angle glaucoma locus and exclusion of candidate genes. *Mol Vis*. 2008;14:1319-26.
2. Alward WL, Fingert JH, Coote MA, et al. Clinical features associated with mutations in the chromosome 1 open-angle glaucoma gene [GLC1A]. *N Engl J Med*. 1998;338:1022-7.
3. Jacobi PC, Dietlein TS, Krieglstein GK. Adjunctive mitomycin C in primary trabeculectomy in young adults. *Graefes Arch Clin Exp Ophthalmol*. 1998;236:652-7.