



Trabeculectomy significantly increases the incidence of cataract formation

The Science behind the Tip

It is widely acknowledged that trabeculectomy (TRAB) accelerates cataract formation. The amount by which this procedure increases risk of cataract has been assessed by 2 randomized controlled trials in 2 different subsets of patients and using different criteria for cataract.

In **CIGTS**¹, 607 patients (mean age 57.5 years, range 28-75 years) with newly diagnosed open-angle glaucoma were treated with either TRAB or medication (follow-up 4 to 5 years). The proportion of cataract surgery in the TRAB group (17.3%), unadjusted for variable follow-up, was 2.8 times greater than that in the medicine group (6.2%). With adjustment, the probability of cataract surgery after 5 years approached 20% in the TRAB group, i.e. about twice the rate observed in the medicine group.

Eyes (n=746) of **AGIS**² patients (mean age 67 years, range 55-75 years,) with medically uncontrolled open-angle glaucoma had either a TRAB or a laser trabeculoplasty. Cataract was defined as either having had cataract surgery or confirmed severe lens opacity and visual acuity worse than 20/50. Over 5 years, 57.4% of eyes with prior TRAB developed cataract versus 48.9% of eyes without. TRAB increased the overall risk of developing cataract by 78%. When no complications occurred following TRAB the increased risk of cataract dropped to 47%, whereas it increased to 104% (i.e. approximately doubled) when complications did occur. Marked inflammation and flat anterior chamber were the complications associated with the highest risk. Further, a second TRAB had nearly 3 times the risk of cataract compared with an eye with a single TRAB. AGIS also identified diabetes and older age as patient characteristics associated with increased risk, suggesting that TRAB may hasten cataract formation in eyes that already have some lens opacity.

References

1. Lichter PR, Musch DC, et al. Interim clinical outcomes in the Collaborative Initial Glaucoma Treatment Study comparing initial treatment randomized to medications or surgery. *Ophthalmology*. 2001;108:1943-53.
2. AGIS (Advanced Glaucoma Intervention Study) Investigators. The Advanced Glaucoma Intervention Study: 8. Risk of cataract formation after trabeculectomy. *Arch Ophthalmol*. 2001;119:1771-9.