



Avoid the upper nasal quadrant when inserting an aqueous drainage implant, as it can result in acquired Brown syndrome

The Science behind the Tip

Aqueous drainage tubes are commonly used in the surgical treatment of refractory glaucoma. New onset persistent diplopia may follow in 5% of patients¹. This complication has been reported in all types of tube and valved implants and probably represents a persistent lengthwise stretching of the extraocular muscles by an underlying bleb or scarring between the muscle and the underlying implant.

If the tube is inserted in the upper nasal quadrant, it can cause diplopia secondary to acquired Brown syndrome (limitation of elevation in adduction) as a consequence of fibrotic shortening of the superior oblique tendon². Factors that may reduce the risk of motility disturbance include careful surgical technique; reduced implant size, and avoidance of the upper nasal quadrant when placing the tube^{1,3}.

References

- 1) Rauscher FM, Gedde SJ et al. Motility disturbances in the tube versus trabeculectomy study during the first year of follow-up. *Am J Ophthalmol* 2009; 147: 458-466
- 2) Dobler-Dixon AA, Cantor LB, Sondhi et al. Prospective evaluation of extraocular motility following double-plate Molteno implantation. *Arch Ophthalmol* 1999; 117: 1155-1160
- 3) Harbick KH, Sidoti PA, Budenz DL et al. Outcomes of inferonasal Baerveldt glaucoma drainage implant surgery. *J Glaucoma* 2006; 15: 7-12