



Consider axial length as an important parameter for your surgical decision in childhood glaucoma patients

The Science behind the Tip

Primary congenital glaucoma leads to blindness if not treated adequately. Typical symptoms are epiphora, photophobia and blepharospasm. The elevated pressure leads to buphthalmos (globe enlargement), corneal edema, ruptures of the Descemet's membrane (Haab's striae), and to glaucomatous optic disc changes. When deciding on a surgical procedure the IOP is the most important factor to consider. However, IOP may be measured false too low (deep anaesthesia) or false too high (thick cornea, anterior segment dysgenesis with different biomechanics of the globe, anaesthetics such as ketamine). Therefore, it is important to include axial length development in the decision for or against surgery.

Axial length (AL) growth is one of the most reliable signs for glaucoma progression in the young patient. It can be measured in the office or during EUA (examination under anesthesia). However, one needs to know normal AL growth to differentiate pathologic growth. Sampaolesi estimated that at one month of age the 5th percentile and 95th percentile of normal AL are 17.25 mm and 20.25 mm, respectively and it increases mostly during 1st and 2nd years. Increase in AL outside normal limits for age or asymmetrical increase compared to fellow-eye suggest poorly controlled IOP. Stabilization of the AL measurements performed within a 3-4 months intervals is considered a good response to glaucoma surgery. Thus, it is of paramount importance to take basal and follow-up AL measurements in children with congenital glaucoma, especially in the first 3 years of age.

References

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