Reversibility of early optic disc cupping in congenital open angle glaucomas after trabeculotomy within the first year of life

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Purpose
To present the rate of reversibility of early optic disk cupping in congenital glaucomas after trabeculotomy within the first year of life.

Methods
The national premis underlying this 10 year retrospective consecutive observational clinical case study is that all therapy demanding cases of congenital glaucoma in Denmark have been treated and surveilled at the Copenhagen University Hospital Glaucoma Unit, Rigshospitalet during the critical early period after diagnosis of the disease.

Outcome measures were:
1) Intraocular pressure reduction and
2) reversibility of early optic disk cupping as evidence of effect of surgery, preferably trabeculotomy within the first year of life.

Preservation of sight vs. permanent visual impairment was validated by the data from the mandatory Danish Childhood Register of Impaired Vision.

Results
During the ten years 47 eyes of 32 children (21 boys and 11 girls) with congenital open angle glaucoma were analyzed retrospectively.

Secondary glaucoma and syndroma cases (systemic dysmorphology) were excluded from the survey, except four cases associated with Sturge-Weber syndrome.

Trabeculotomy was the surgery of choice in 38 out of 47 eyes (81%).

With delayed diagnosis trabeculectomy had to be performed in 9 cases due to fibrotic closure of Schlemm’s canal.

Reversal of diskcupping was found in 32/47 (68%) eyes.

Three out of four children (75%) subsequently had good or fair vision at disposal (best corrected vision better than 6/18 (0.3) of the child’s better eye.

In the visual impairment register group (best corrected vision presumed not to exceed 6/18 of the child’s better eye) only 8/32 (25%) showed reversal of disc cupping.

Reversability of optic disk after trabeculotomy: CD-ratio

Conclusions
Early diagnosis and surgery for congenital glaucoma has remained the cornerstone for successful IOP lowering, reversal of disk cupping and protection for visual impairment.