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Using the Stratus OCT on an Infantile Glaucoma Patient.

The patient

A 6-month old Caucasian female infant presented to us 2 years ago with a cloudy right cornea with mild tearing. Her IOPs were 36 mm Hg in the right eye and 37 mm Hg in the left eye. Both corneas had been large since birth, and the child seemed to see well. The patient's father has a history of optic nerve cupping with borderline high IOPs and full visual fields. He is not using glaucoma medication but is being followed as a glaucoma suspect.

The child's initial examination was notable for her ability to fixate and follow with each eye. She had enlarged corneas bilaterally to about 13 mm, with mild corneal edema in the right eye.

Using the indirect ophthalmoscope, we estimated cup-to-disc ratio of about 0.5 in both eyes. We diagnosed the patient with infantile glaucoma and goniotomy surgery was performed in both eyes.

At age 2 years and 5 months, stereoscopic fundus photographs could be taken only of one eye due to the child's lack of cooperation, but a Stratus OCT scan was obtained.

The Stratus OCT results

The ophthalmic photographer was able to obtain a Stratus OCT fast macular scan on both eyes of the

child and full scans of the father's eyes. The father's optic nerve cupping looked quite similar to that of the child's, and Stratus OCT showed that his retinal nerve fiber layer thickness measurement was normal in both eyes.

His macular thickness in both eyes was significantly greater than his daughter's, according to Stratus OCT. This suggested to us that the cupping of the child's optic nerves was likely not simply physiologic, but she had actually lost nerve fibers likely due to the glaucoma (which is now controlled).

This case was notable because the Stratus OCT revealed the father's healthy nerve fiber layer and macula but a thinner macula in the infant. This case also demonstrates the ability to obtain a good quality Stratus OCT scan on a very young patient.

The follow up

Goniotomy surgery was performed twice in both eyes and then a third time in the left eye. The corneal edema cleared after these surgeries.

On her most recent clinical exam, at age 2 years and 5 months, the child's IOPs were 16 mm Hg in her right eye and 20 mm Hg in her left eye. Her therapeutic regimen is timolol 0.25% gel forming solution (Timoptic-XE), one drop in each eye daily, and brinzolamide ophthalmic suspension 1% (Azopt) one drop in each eye twice daily.

Currently her uncorrected vision is 20/50 in her right eye and 20/60 in her left eye, and she is myopic by 1.50D in each eye. Her optic nerve cupping is estimated at 0.6 in her right eye and 0.65 in her left eye.

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