required. The study was performed at the Medical University of Vienna in adherence to the tenets of the Declaration of Helsinki.

All patients were examined before and 1 week after Nd:YAG laser capsulotomy. Best-corrected distance visual acuity (BCDVA) was determined by the Early Treatment Diabetic Retinopathy Study (ETDRS) chart. CS was measured by the Functional Acuity Contrast Test (FACT chart; Vision Sciences Research) in the so-called Ginsburg Box, showing five rows (A to E) with sine wave patterns of increasing frequency, under photopic conditions (85 cd/m^2). The pupil diameter was measured with a Colvard pupillometer under similar light conditions. Digital retroillumination images of the posterior capsule were taken,[4] and the central (circular) area corresponding to the measured pupil size was evaluated with the automated AQUA software.[3]

To eliminate further factors influencing CS and BCDVA, only the individual differences in CS, BCDVA, and PCO score before and after capsulotomy were used for comparison.

Data of 29 eyes could be analyzed. The mean AQUA PCO score changed from 3.71 to 0.10 ($P < .01$). There was a significant difference in CS for all rows on the FACT chart (Table). Mean ETDRS visual acuity changed from 0.31 to −0.03 (logarithm of minimal angle of resolution scale) after capsulotomy. The PCO score decreased in all cases. However, there were three cases with no difference in BCDVA. CS increased in all cases at least in two rows of the FACT chart. The mean pupil diameter was 2.30.

The correlation between the BCDVA differences and the PCO score differences was 0.57 ($P < .05$) (Figure 1, A). All correlations between CS and PCO score differences were significant except for row E (18 cycles/degree) on the FACT chart (Table). The correlation was highest for row B (3 cycles/degree) (Figure 1, B). Two representative cases are shown in Figure 2.

There is a significant correlation between the change in objective AQUA PCO score and the PCO-induced decrease in CS. Correlation between change in CS and AQUA score was highest ($r = 0.85$) for row B on the FACT chart (3 cycles/degree). However, there was no significant correlation between AQUA and CS score difference for row E (18 cycles/degree). CS in this frequency range seems to depend on other factors than posterior capsule opacification, such as age, and varies largely between repeated measurements. CS seems to be more affected by PCO than BCDVA.

Similar results were found by Meacock and coauthors.[6] On the other hand, CS was only weakly correlated with PCO score in a study by Hayashi and coauthors.[7] However, the PCO intensity assessment method was different in their study.

In summary, the PCO score obtained with AQUA correlates well with the PCO-induced decrease of BCDVA, and even better with the PCO-induced loss of CS. The AQUA software is a useful tool for clinical studies investigating the effect of intraocular lens materials and designs on PCO development.

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Risk of Retinopathy in Children With Type 1 Diabetes Mellitus Before 2 Years of Age

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PURPOSE: To assess the risk of diabetic retinopathy (DR) in children with type 1 diabetes mellitus (T1DM) diagnosed at a very early age.

DESIGN: Observational case series.

METHODS: The records of 51 patients were identified through the diabetes database of the Division of Pediatric Endocrinology and Metabolism at Washington University School of Medicine. The patients were diagnosed with T1DM before 2 years of age and were monitored for at least 5 years after diagnosis. The results of ophthalmic screening examinations were reviewed.

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RESULTS: **Fifty-one patients were identified, 33 of whom were monitored for >8 years. None of the patients developed DR.**

CONCLUSIONS: **Children have a negligible risk of developing DR during the first 10 years of life, even if they are diagnosed before age 2. These results indicate that screening for DR is not necessary before age 10.** **(Am J Ophthalmol 2005;140:930–931.**

TYPE 1 DIABETES MELLITUS (T1DM) AFFECTS APPROXIMATELY 2/1000 children in the United States. Diabetic retinopathy (DR) is one of the most important sequelae of T1DM and represents the leading cause of blindness in young adults. Several screening strategies have been proposed that use known risk factors to identify DR at a stage amenable to treatment. One of the most important risk factors is duration of disease. Studies uniformly find that the longer the patient has diabetes, the greater the risk of developing DR.[1–4]

Children appear to have a low risk of developing DR during the first decade of life. The reasons for this are not clear. Possible explanations include a modulating effect of puberty on the development of DR, or some other unrecognized systemic factor that would make children less susceptible to retinopathy than adults. Alternatively, the decreased risk could simply reflect a shorter duration of disease in young children. If the latter were true, then children diagnosed with T1DM at a very early age might be at increased risk for development of ocular complications during the first decade of life. Current guidelines recommend that screening begin 3 to 5 years after diagnosis of T1DM, but not all specify whether screening is recommended during the first decade of life.[5] This raises the question of what guidelines should apply to children diagnosed with T1DM at a very early age? We performed a MEDLINE search but were unable to identify any study that specifically evaluated the risk of DR in this patient population.

We reviewed the results of screening ophthalmic examinations in approximately 2000 patients treated at the Diabetes Clinic of the Department of Pediatrics of Washington University and St Louis Children's Hospital. The study was approved by the Washington University Institutional Review Board and the work was HIPAA compliant. The Clinical Diabetes Database was used to identify patients who were diagnosed with T1DM before 2 years of age, who were followed in the Diabetes Clinic for at least 5 years, and who had retinal examinations performed by ophthalmologists, optometrists, or pediatric endocrinologists experienced with fundus examination. The age at diagnosis, duration of disease, and results of retinal examination were recorded.

Ninety-nine patients were identified who were diagnosed with T1DM before 2 years of age. Thirty of these patients were excluded because they had diabetes for <5 years at last examination, and 18 were excluded because no ocular examination was recorded. The study included the 51 patients (24 boys, 27 girls) who had retinal examinations at least 5 years after diagnosis. Twenty-six of these patients were examined by ophthalmologists, five by optometrists, and 20 by pediatric endocrinologists. The mean age at diagnosis of T1DM in this group was 15 months (range 1 to 23 months). The mean duration between diagnosis and the last recorded fundus examination was 11.3 years (range 5.3 to 21.5 years). Thirty-three of the patients were monitored for at least 8 years. The mean age at diagnosis for this group was 14 months (range 1 to 23 months), and the mean duration between diagnosis and the last recorded fundus examination was 13.7 years (range 8.3 to 21.5 years). None of the patients developed DR during the time of observation.

The risk of developing DR is very low during the first decade of life. In a review of the largest studies of DR in young people, which included >900 children with T1DM, no child <10 years of age had DR that required treatment.[1–4,6,7] Diagnosis of T1DM before age 2 is uncommon, representing only approximately 5% of the patients in our database. Despite the longer duration of diabetes before age 10 in these children, no retinopathy was detected in any patient. The results of this study indicate that screening for DR is not necessary before 10 years of age, even in the subgroup of children whose diabetes is diagnosed at a very early age.

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