

Before, Between & Beyond Pregnancy
**The National Preconception Curriculum and Resources Guide
for Clinicians**

**Annotated Articles Guiding Preconception Care
of Women with Diabetes**

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Retinopathy

Rahman, W., Rahman, FZ., Yassin, S., Al-Suleiman, SA., Rahman, J. Progression of retinopathy during pregnancy in type 1 diabetes mellitus. Clin and Exp Ophthalmol 2007; 35: 231-236. <http://www.blackwell-synergy.com/action/showPdf?submitPDF=Full+Text+PDF+%2870+KB%29&doi=10.1111%2Fj.1442-9071.2006.01413.x>

Synopsis: Pregnancy is a well known risk factor for progression of diabetic retinopathy in women with type 1 diabetes. Rahman and colleagues conducted a retrospective review of 54 type 1 diabetic patients followed throughout pregnancy/puerperium with serial ophthalmic and dilated fundoscopic exams performed each trimester and post partum. Patient ages ranged from 18-34 with a mean age of 23.5. Mean duration of diabetes was 12.4 years with a range of 2-24 years. Mean HbA1c was 7.8 +/- 1.3 before pregnancy and remained well controlled throughout pregnancy and the puerperium.

Overall 13/54 (24%) of the women showed progression of retinopathy during pregnancy. No diabetic retinopathy was seen in 22 patients (41%); 2 (9.1%) showed progression during pregnancy. Non-proliferative diabetic retinopathy was seen in 20 (37%) of the patients with progression in 4 (20%). Proliferative diabetic retinopathy (PDR) was seen in 12 patients (22%), 7 of whom showed progression (58.3%). Of the women with PDR, 8/12 (75%) had no laser treatment before pregnancy and 6 of the women with PDR (75%) showed progression. All of the remaining women had laser treatment of their proliferative diabetic retinopathy prior to pregnancy and only 1 of them (25%) showed progression.

No significant differences were found in glycemic control between women who did and did not experience progression; however, women with advanced White's classification were more likely to experience progression of retinopathy. Women with chronic hypertension and those who developed preeclampsia also had an increase in progression of retinopathy. In addition, a statistically significant difference was seen in duration of diabetes between those who had retinopathy (16.5 yrs) and those who did not

(8.2 years) ($p < 0.01$). A statistically significant difference was also seen when comparing duration of diabetes in women who had progression of retinopathy (19.7 yrs) with those who did not progress (13.5 yrs) ($p < 0.01$).

The authors conclude that laser treatment for severe non-proliferative diabetic retinopathy or early proliferative retinopathy may protect against progression of proliferative retinopathy, and that the visual impairment seen in progression of PDR can be prevented by aggressive laser treatment during pregnancy. Significant risk factors for progression in pregnancy include duration of diabetes > 15 years and hypertension.

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