Diabetic Retinopathy in Pregnancy
APGO Objective #18(Medical and Surgical Conditions in Pregnancy)
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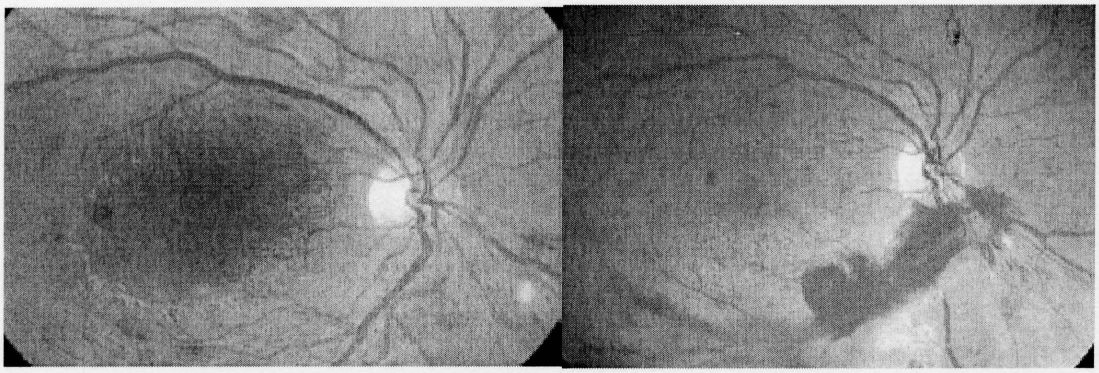
CASE

34 y/o G5P3104 @ 30 wks via LMP on 3/23/03 c/w USG @ 10 presents to your OB/GYN clinic as a transfer patient from the adult diabetic clinic. She was diagnosed with gestational diabetes with each pregnancy in the past and now has recently been classified as a type II diabetic. Her HgA1c levels are 8.5%. She has noticed increased vision changes. Her visual accuity is at 6/18. Funduscopic exam reveals cystoid macular edema, blot hemmorhages and new vessels close to the fundus. She has a large gestational baby for her pregnancy and now wants to read about her condition; only she can barely see the pages 3 feet from herself. She has good fetal heart tones, a great BPP, and wants to know if she needs contacts for her deteriorating vision.

TEACHING POINTS pregnancy induced diabetic retinopathy concerns

ξ loss of vision- Diabetic retinopathy can show accelerated deterioration in women primarily in the third trimester. Women usually complain of loss of visual acuity. Unlike preeclampsia in which retinal detachment and blindness can occur and glaucoma in which there is an increased intraocular pressure, diabetic retinopathy presents with increasing eye pain, blurred vision, photophobia, and a decreased intraocular pressure. Careful funduscopic examination can detect anatomical defects in retinal vasculature:



ξ new guidelines on the horizon- some studies suggest that known diabetics should have funduscopic exams as often as pre-natal visits. Retinopathy can accelerate rapidly in its destructive course in a matter of days-weeks during the third trimester. Many studies try to correlate glycaemic control with the development of retinopathy. It is known what diabetes can do to the fetus: congenital anomalies, macrosomia, hydramnios, IUFD/SAB. And, it is well documented how uncontrolled diabetes affects the mother: DKA, increased incindence of UTI's, and PIH/pre-eclampsia. So measurement of HgbA1c is a must in the known pre-gestational diabetic patient. And, glucola with periodic Accuchecks is needed for the gestational diabetic patient with each visit.

ξ Treatment options- strict control of glucose levels is a must. Realize this---insulin does not cross the placenta, glucose does. Insulin therapy is done on a patient to patient basis; yet a 2/3 am dose with a 1/3 pm dose is the norm. Monitoring of the baby's status with a good maternal-fetal medicine doctor(shout out to Dr. NORMAN MEYER) is a key. Fetal lung maturity and a planned course of delivery should be noted. Laser therapy is not a cure-all, it is solely palliative!!!

Research Designs and Methods

A longitudinal analyses of the Diabetes Control and Complications Trial, a multicenter controlled clinical trial that compared intensive treatment with conventional diabetes therapy, and studied 180 women who had 270 pregnancies and 500 women who did not become pregnant during an average of 6.5 years was used. THis would make this a II-2 classified study. Fundus photography was performed every 6 months.

Results

Compared with non-pregnant women, pregnant women had a 1.63-fold greater risk of any worsening of retinopathy from before to during pregnancy in the intensive group; the risk was 2.48-fold greater for pregnant vs. non-pregnant women in the conventional group.

Discussion

Glyceamic control before pregnancy is needed for every woman. The increases in metabolic hormone production and angiogenesis factors is a normal part of the pathophysiology of pregnancy. Recommended weight gain guidelines should be revisited. A 25 - 35 lb. weight gain is at least a 20% increase in habitus for the average size woman. These factors introduce stress responses by the bodies normally tightly controlled glucose homeostatic mechanisms. And sometimes the "perfect machine" fails to determine normalcy. Retinopathy is transiently increased in diabetic mothers; and, increased ophthalmologic surveillance is needed during pregnancy and for post-partum women. The degree of funduscopic changes prior to pregancy and hyperglycemic control is a timely predictor of severe retinopathic events.

References

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