Outcomes of Diabetic Retinopathy Screening in Pregnant Women in Birmingham and Solihull – Results from the Largest NHS Trust in England

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Introduction

Diabetic retinopathy(DR) is a leading cause of blindness in women during their childbearing years. Pregnancy is an independent risk factor, significantly increasing the short-term risk of DR progression. (Diabetes Control Complications Trial)

Global estimates of diabetic retinopathy prevalence and progression in pregnant women with preexisting Diabetes:
The prevalence of proliferative DR: 6.1%,
DR progression rate : 6.3% to 37.0%.

Management of DR during pregnancy poses many challenges due to potential of rapid progression, logistical difficulties, and contraindication of anti-VEGF treatment due to risks to the foetus.

Aims

(1) To overview the diabetic eye screening attendance and compliance;
(2) To understand progression of diabetic retinopathy during pregnancy in Birmingham and Solihull area.

Methods

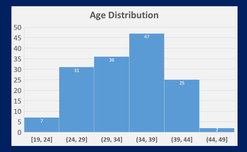
Data collection

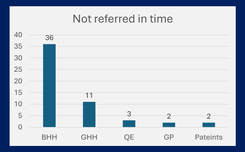
Screening data between 1st September 2022 to 31st August 2023 were provided by diabetic eye screening program (DESP). Hospital Records from University Hospital Birmingham NHS Trust (UHB) - Medisoft, OCT & retina images were retrospectively reviewed.

Inclusion criteria

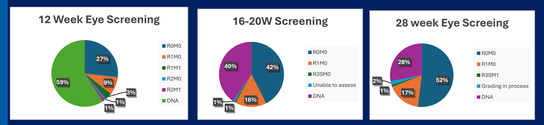
Pregnant women with pre-existing diabetes
Participants received maternity service in UHB & referred to DESP

Results





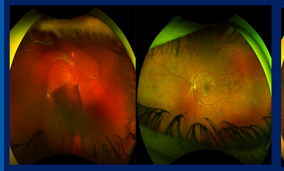
(1) In this 12-month period, 149 patients were included in DESP due to their pregnancies. The 12-week screening attendance was 41%, mainly due to patients did not attend (DNA, 23%) or they were not referred in time (36%). The 28-week screening attendance was 51%. By offering 118 extra appointments, 86.6% women completed screening.



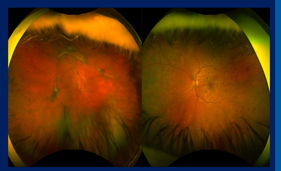
Diabetic eye screening results 01/09/22- 31/08/23. High rate of Did Not Attend rate during pregnancy.

(2) Proliferative diabetic retinopathy
There are 8 patients referred to hospital eye service by DESP, one of them developed high-risk proliferative DR (R3AM0).

Case 1



23-week pregnancy



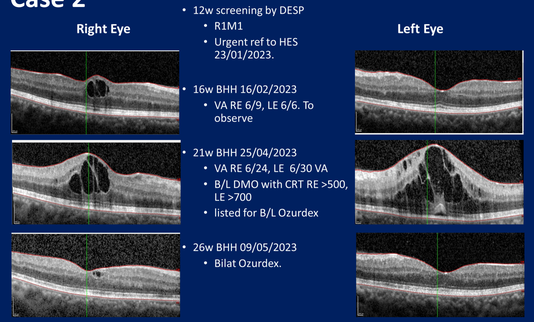
Breast feeding

A 28-year-old patient with pre-existing type1 diabetes. High-risk PDR developed during pregnancy. Multiple times DNA for clinic appointments and PRP laser sessions. Right eye had dense vitreous haemorrhage at 23-week pregnancy with bilateral NVE. (NVE, new vessels elsewhere in retina)

(3) Diabetic Macular Oedema During Pregnancy

- The incidence of diabetic macular oedema (DMO) during pregnancy was 7% (8 cases).
- Of these, 13% (1 case) progressed to bilateral severe DMO requiring steroid implants.
- The remaining cases resolved spontaneously.

Case 2



A 40-year-old patient with pre-existing type 2 diabetes developed severe bilateral diabetic macular oedema during pregnancy. Her vision reduced significantly at 21 weeks of pregnancy. The central retinal thickness measured >500 µm in the right eye and >700 µm in the left eye on OCT. She responded well to steroid implants with complete resolution of the macular oedema. The patient was treated at Birmingham Heartlands Hospital (BHH).

Discussion

Efforts are needed to improve the attendance of diabetic eye screening during pregnancy, as well as in time referral from maternity service.

The rate of referrable DR remains lower than global estimates, but treatment can be challenging.

Diabetic maculopathy may progress rapidly during pregnancy, requiring treatment in a timely manner.