**Diabetic Medicine July 2016**

**Headlines**

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| Screening intervals for diabetic retinopathy | Breastfeeding and glycaemic control |
| Hyperglycaemia in pregnancy and risk of atherosclerosis | Sex of the offspring and risk of future maternal risk of type 2 diabetes |
| Using dogs to detect hypoglycaemia | HNF1A-MODY and sulphonylurea treatment |

Artwork

**Title: Diabetic Pre-proliferative retinopathy**

**\\soton.ac.uk\ude\personalfiles\users\righ\mydocuments\PC files\Essential Endocrinology\2006 Edition\Photos\Plate 14.4 Preproliferative.tif**

This figure comes from Essential Endocrinology and Diabetes. 6th Edition. Holt and Hanley. As Wiley published this, I hope it will not be too difficult to get a higher resolution photo than the one inserted into this file

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**Caption: Diabetic Pre-proliferative retinopathy**

**Free articles**

1. Editorial plus

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| --- | --- | --- | --- |
| DME13021 | DME-2014-01033.R2 | Wilding,J P H | Role of incretin-based therapies and sodium-glucose co-transporter-2 inhibitors as adjuncts to insulin therapy in Type 2 diabetes, with special reference to insulin |
| DME13129 | DME-2015-00904.R1 | Scotland,Graham S | Modelling the cost-effectiveness of adopting risk-stratified approaches to extended screening intervals in the national diabetic retinopathy screening programme in Scotland |
| DME13053 | DME-2015-00518.R2 | Oke,Jason Lee | The use of statistical methodology to determine the accuracy of grading within a diabetic retinopathy screening programme. |
| DME12957 | DME-2015-00157.R2 | Scanlon,Peter H | Screening Attendance, Age Group and Diabetic Retinopathy Level at First Screen |

**Diabetic retinopathy: a success story for screening**

The NHS Diabetic Eye Screening Programme in the four nations of the United Kingdom has been a success story.

England and Wales have collected information on the number of people losing their sight for over 150 years with specific causes identified since 1930. For many years, diabetic retinopathy has been the leading cause of blindness among people of working age but data from 2009-2010 indicated that more people went blind from hereditary retinal disorders than diabetes. In the decade between 1999-2000 and 2009-2010, the number of people who were registered blind as a result of diabetes fell from 290 (16.7% of all certifications) to 253 (15.8%) despite a marked rise in the prevalence of diabetes over the same period (1).

Although examination for diabetic retinopathy has been undertaken for many years, formal national screening programmes in the UK only began in 2002-2003. The aim of these programmes was to ensure that all people with diabetes over the age of 12 years receive regular eye screening as one of their essential free NHS checks and services and in 2014-2015 over 80% of all people with diabetes in England attended for screening. With robust referral pathways and quality assurance, this has led to better identification and earlier treatment of one of the most devastating complications of diabetes.

The risk of developing retinopathy differs according to the duration of diabetes, as well as glycaemic and blood pressure control, and so the current annual screening intervals may not be appropriate for all. As the choice of annual screening was pragmatic, there have been calls to increase the time for those with uncomplicated, well controlled diabetes. In this issue, we have three articles that discuss the screening programme. In the first, Scotland and colleagues demonstrate that biennial screening for those with type 2 diabetes and no retinopathy is likely to deliver significant cost savings with only a minimal increase in the risk of adverse visual acuity and worsened quality of life (2).

Further evidence to increase the screening interval to 2 or 3 years comes from Oke and colleagues who used a statistical modelling approach to evaluate the accuracy of retinal screening (3). Using data from the Gloucestershire Diabetic Eye Screening Programme, the authors estimated that 21.6% of all assessments were misclassified with 16.1% being over-graded and 5.5% being under-graded. Although misclassification of background retinopathy as no detectable retinopathy was relatively common (3.4% of all grading), the model predicted that this was highly unlikely to lead to significant clinical delays in referral for sight threatening retinopathy.

In the United Kingdom Prospective Diabetes Study, retinopathy was present in 39% of men and 35% of women with newly diagnosed type 2 diabetes, with marked retinopathy in 8% of men and 4% of women. These findings have underpinned the need to register people with newly diagnosed diabetes with the Diabetic Eye Screening Programme as soon as possible after diagnosis. Using data from across the United Kingdom, Scanlon and colleagues describe how younger people are less likely to attend for screening promptly after registration and how this delay translates into a higher risk of retinopathy requiring referral and treatment (4).

While the reduction in the rates of blindness from diabetes is heartening, further efforts are needed to ensure that all people with diabetes understand the rationale for retinal screening and to encourage their attendance in order to make blindness from diabetes a thing of the past. A more rational targeting of the Diabetic Eye Screening Programme may help us to achieve this.

Richard IG Holt

Editor-in-Chief

1. Liew G, Michaelides M, Bunce C. A comparison of the causes of blindness certifications in England and Wales in working age adults (16–64 years), 1999–2000 with 2009–2010 BMJ Open. 2014 Feb 12;4(2):e004015. doi: 10.1136/bmjopen-2013-004015.
2. Scotland et al. Modelling the cost-effectiveness of adopting risk-stratified approaches to extended screening intervals in the national diabetic retinopathy screening programme in Scotland. DME13129. DME-2015-00904.R1
3. Oke et al. The use of statistical methodology to determine the accuracy of grading within a diabetic retinopathy screening programme. DME13053. DME-2015-00518.R2
4. Scanlon et al. Screening Attendance, Age Group and Diabetic Retinopathy Level at First Screen. DME12957. DME-2015-00157.R2