Group Title: Complications of diabetes diagnosed in children and adolescents

To the Editor:

Dr Dabelea and colleagues[1] provided much needed data on the natural history of complications in adolescents and young adults with diabetes. We agree that the increasing number of children and adolescents living with diabetes calls for strategies to reduce the development of diabetic complications in early adulthood. With regards to diabetic eye disease, such strategies require a deeper understanding than currently available of the natural history of diabetic retinopathy. Specifically, analyses of the prevalence of and progression to retinopathy requiring treatment are needed.

The taxonomy used by Dabelea and colleagues combined all grades of diabetic retinopathy into one category, ie, they considered early mild non-proliferative and blinding proliferative retinopathy together. This is uninformative and potentially misleading.

Since management of diabetic retinopathy varies by severity, ranging from continuation of routine screening to ophthalmic interventions such as laser therapy,[2] reporting that the overall prevalence of diabetic retinopathy in adolescents and young adults living with type 1 and type 2 diabetes as 5.6% and 9.1%, respectively, does not serve to inform pediatric diabetic retinopathy care pathways. Screening programs for diabetic retinopathy aim primarily to prevent visual loss by early identification and opportune treatment of sight-threatening retinopathy, ie, severe non-proliferative or more advanced stages that might benefit from treatment with laser therapy or intravitreal anti-vascular endothelial growth factor therapy.[2] Knowledge of the prevalence and risk factors for each of these stages is necessary to the debate on whether screening recommendations for diabetic retinopathy in children and adolescents should be modified.[3] The

Diabetic Eye Disease in Childhood Study (DECS), currently underway in the United Kingdom, aims to fill some of these gaps in the evidence base.[4]

Evidence has emerged in adult populations of the clinical utility of the identification of early diabetic complications as a driver of improvements in glycemic control.[5] However, it is unclear whether the same holds true for children and adolescents with early stages of diabetic retinopathy. We disagree with Dabelea and colleagues that "mild non-proliferative diabetic retinopathy or more severe stages" is the relevant endpoint for planning monitoring or investigating the epidemiology of retinopathy in children and adolescents living with diabetes.

Maria Carolina Ibanez-Bruron, MSc, MD

Ameenat Lola Solebo, PhD, FRCOphth

Jugnoo Sangeeta Rahi, PhD, FRCOphth

GOS Institute of Child Health

University College London

London, United Kingdom

Corresponding Author: Jugnoo Sangeeta Rahi, PhD, FRCOphth, GOS Institute of Child Health UCL, 30 Guildford Street, London, WC1N 1EH (j.rahi@ucl.ac.uk).

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