COMMENT ON GANGE ET AL.

Incidence of Proliferative Diabetic Retinopathy and Other Neovascular Sequelae at 5 Years Following Diagnosis of Type 2 Diabetes. Diabetes Care 2021;44:2518–2526

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We were interested by the recent article from Gange et al. (1), who reported that 1.74% of 71,817 individuals with newly diagnosed type 2 diabetes had a proliferative retinopathy 5 years later. The authors mentioned that this incidence was probably underestimated because the patients were not mandated to follow-up at strict intervals, which prompted us to analyze how many of our patients with recent (≤5-year duration) type 2 diabetes had a sight-threatening retinopathy.

The 191 patients were admitted to our Diabetology ward from 2009 to 2017 for recent (duration 2.3 ± 1.9 years) type 2 diabetes. They were 62.8% men, 59 ± 11 years old, with poorly controlled diabetes, with HbA_{1c} 8.9 ± 2.2%. Five subjects had a proliferative retinopathy, 2.6%, near the estimation of Gange et al.; however, eight more subjects had diabetic macular edema, which led to a higher prevalence (6.8%) of sight-threatening retinopathies.

Gange et al. (1) observed that proliferative retinopathies were related to other early chronic diabetes complications, indicating that they resulted from years of asymptomatic hyperglycemia before the diagnosis of type 2 diabetes. The 4- to 6-year delay between type 2 diabetes onset and its diagnosis is an indirect estimation based on retinopathy prevalence and incidence, and large interindividual variations are probably critical for early vascular complications; it would be useful to get insight on the glycemic exposure before diagnosis. This glucose memory can be evaluated in type 2 diabetes by measuring the skin autofluorescence (SAF) of advanced glycation end products (2).

Our patients with sight-threatening retinopathies did not differ from others for the main markers of risk of retinopathy: sex, age, BMI, arterial hypertension, blood lipid profiles, and HbA_{1c}. Their SAF levels were higher: 3.1 ± 0.8 vs. 2.5 ± 0.6 arbitrary units ($P = 0.001$). They also had more diabetic kidney diseases (DKD) (69.2% vs. 30.9%, $P = 0.005$), in accordance with the 2.68 odds ratio between renal disease and proliferative retinopathy, as reported by Gange et al. (1).

We have reported that DKD and SAF interacted with diabetic retinopathy in subjects with a longer duration of diabetes (3). In our patients with recently diagnosed diabetes, the rates of sight-threatening retinopathies were one case (1.6%) in 64 patients with no DKD and SAF below the median (2.4 arbitrary units), one case (4.3%) in 23 patients with DKD and SAF below the median, three cases (4.8%) in 63 patients without DKD but SAF above the median, and eight cases in 41 patients with both DKD and SAF above the median (19.5%) ($P = 0.003$).

We agree with Gange et al. (1) that the screening of retinopathy must begin as soon as type 2 diabetes is diagnosed due to the possibility of previous long-term ignored hyperglycemia leading to severe forms, as they interestingly observed; however, the forms of disease are not limited to proliferative retinopathy, and macular edema is another concern. Health care systems are overwhelmed by this task: in France, this screening is only partially performed (4). Although it cannot be applied to some ethnic groups due to their dark skin (5), SAF may help to select high-risk patients for this screening.

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