

Retinopathy Starts Earlier Than Thought in Type 2

This new data emphasizes that eye exams should be recommended for all patients who have newly diagnosed diabetes or impaired glucose tolerance.

Almost 8% of patients with prediabetes who participated in the follow-up portion of the Diabetes Prevention Program (DPP) were found to have diabetic retinopathy (DR). This data was presented by Richard Hamman, MD, DrPH, at the American Diabetes Association's 65th Annual Scientific Sessions in San Diego. Dr. Hamman, vice chair of the DPP, is professor and chair of the department of preventive medicine and biometrics at the University of Colorado School of Medicine.

The DPP Outcomes Study (DPP OS) included 302 of the DPP participants who had not developed diabetes and 588 of 876 participants who had. The original DPP included 3,234 patients with impaired glucose tolerance (IGT). The main study results, announced in 2001 and reported in the February 7, 2002 issue of *The New England Journal of Medicine*, found that patients who lost 5% to 7% of their body weight with diet and exercise lowered their incidence of type 2 diabetes by 58%. Patients who were treated with metformin reduced their chances of developing diabetes by 31%.

In reporting the DPP OS results, the investigators said that previous studies have not accurately defined when type 2 diabetes begins, therefore the understanding of the onset of DR has been limited. This study shows that DR occurs in prediabetes and it reinforces the need for eye screenings in patients with newly diagnosed diabetes and IGT.

About 18.2 million Americans have diabetes. Type 2 diabetes accounts for up to 95% of all diabetes cases, according to the National Institutes of Health. About 40% of US adults aged 40 to 75 years have abnormal blood glucose levels without having diabetes. Many of these people will develop type 2 diabetes in the next 10 years.

In the DPP OS, fundus evaluation found DR lesions grades ≥ 20 in 7.6% of the prediabetic patients. Among the patients who had developed diabetes, almost 13% had DR.

In exploring the association of DR with duration of diabetes, the investigators reported that those who had developed diabetes in the previous 1 to 5 years had slightly more severe DR. The researchers also explored associations of multiple potential risk factors. They found that higher average blood glucose levels and higher blood pressure were associated with the risk of developing DR in the new-onset diabetic patients, which is similar to previous findings in patients with long-standing diabetes who develop DR.

Blood pressure averaged 129/80 mm/Hg for patients with evidence of DR versus 124/78 mm/Hg for those without. Similarly, those with slightly elevated HbA1c had evidence of DR as well, with readings of 6.5% versus those with no DR at 6.3%.

It is important to note that both blood pressure and HbA1c levels were within the range of current recommended guidelines. While it may be too soon to recalculate these cutoffs for blood pressure and HbA1c, Dr. Hamman emphasized that a full eye exam is necessary at the time of diagnosis. Retinopathy is present at glucose levels much lower than previously thought, he said.

Early diagnosis of DR is crucial in order to begin sight-saving therapies. ■



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