

Retinopathy in subjects with Increased Fasting Plasma Glucose Levels

Karunakaran S, Aldington S, North B, Ryder R, Holman RR

Diabetologia (1998); **41**: Suppl 1: A283

631 subjects thought to be at increased risk of Type 2 diabetes with an increased fasting plasma glucose (FPG) of 5.5 -7.7mmol/l inclusive on two consecutive occasions were recruited into the Early Diabetes Intervention Trial (EDIT). Exclusions were known diabetes, active macrovascular disease, impaired renal function uncontrolled hypertension, life threatening illness or drugs that affect glucose metabolism. 596 subjects with mean (SD) FPG 6.0(0.5) mmol/l, age 52(10)years, body mass index 28.5(4.5)kgm² had four-field colour retinal photographs taken and graded using the "ETDRS final" grading scale by 2 independent assessors. Mean values from twin 75gm oral glucose tolerance tests classified 46% of subjects as normal glucose tolerance(NGT), 40% as impaired glucose tolerance (IGT) and 15% as diabetes mellitus (DM) using WHO criteria. 21.4% of subjects had retinopathy with 16% having microaneurysms only and 5.4% having haemorrhages and / or exudates in addition. 21% of NGT, 25% of IGT and 25% of DM subjects had retinopathy. One IGT subject with an fpg of 6.3mmol/l had proliferative retinopathy. Conclusion: The glycaemic threshold for developing diabetic retinopathy is probably lower than the present WHO or ADA diagnostic FPG levels for diabetes.