

Microaneurysms in the development of diabetic retinopathy (UKPDS 42). UK Prospective Diabetes Study Group.

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**AIMS/HYPOTHESIS:** To determine whether microaneurysms, in the absence of other lesions, have a predictive role in the progression of diabetic retinopathy in Type II (non-insulin-dependent) diabetes mellitus. **METHODS:** Retinal photographs taken at diagnosis in patients participating in the United Kingdom Prospective Diabetes Study, and thereafter at 3 yearly intervals, were assessed using a modified Early Treatment of Diabetic Retinopathy grading system for lesions of diabetic retinopathy and end points of vitreous haemorrhage and photocoagulation. The number of microaneurysms in each eye was recorded. **RESULTS:** The changes between diagnosis and later photographs were analysed in 2424 patients at 6 years, 1236 at 9 years and 414 at 12 years. Of the 2424 patients studied in the 6 year cohort 1809 had either no retinopathy or microaneurysms only at entry. In these patients the presence of microaneurysms alone and also the number of microaneurysms had a high predictive value for worsening retinopathy at 3, 6, 9, and 12 years after entry into the study (e. g. at 6 years  $\chi^2$  for trend = 75 on 1 df,  $p < 0.001$ ). The predictive value of the presence or absence of microaneurysms and their number at 3 years from diagnosis and subsequent worsening retinopathy was similar to that at entry. **CONCLUSION/INTERPRETATION:** Microaneurysms are important lesions of diabetic retinopathy and even one or two microaneurysms in an eye should not be regarded as unimportant.