UK Prospective Diabetes Study (UKPDS). XI: Biochemical risk factors in type 2 diabetic patients at diagnosis compared with age-matched normal subjects.

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A total of 507, newly diagnosed, white Caucasian Type 2 diabetic patients entered into UK Prospective Diabetes Study, mean age 52 +/- 9 (SD) years have been compared with 195 age-matched normal subjects (fasting plasma glucose < 6 mmol l-1) who had no known first degree relatives with diabetes. Diabetic patients were more obese BMI(kg m-2) 30.1 +/- 6.2 vs 26.2 +/- 4.0, respectively, with female (F) diabetic patients more so than male (M). Fasting plasma glucose (mmol l-1) was 12.2 +/- 3.8 vs 5.0 +/- 0.6 in diabetic and normal subjects, and, haemoglobin A1c(%) 9.3 +/- 2.3 vs 5.4 +/- 0.4. Hyperinsulinaemia (mU l-1) was prevalent in both male and female diabetic patients, after adjustment for BMI (geometric mean 1SD interval, M 12.1 (11.8 to 12.4) vs 8.3(7.8 to 8.9) and F 13.3 (12.9 to 13.7) vs 7.4 (7.1 to 7.7). Plasma triglyceride (mmol l-1) was higher in diabetic patients, 1.8 (1.1 to 2.9) vs 1.1 (0.6 to 1.8). Total cholesterol (mmol-1) was slightly elevated in diabetic patients, with females in both populations higher than males, M 5.5 +/- 1.2 vs 5.2 +/- 0.9 and F 5.8 +/- 1.1 vs 5.5 +/- 1.1. HDL cholesterol (mmol l-1) was slightly lower in male and markedly lower in female diabetic patients than in normal subjects, M 1.00 +/- 0.26 vs 1.11 +/- 0.22 and F 1.12 +/- 0.27 vs 1.42 +/- 0.33. Urine albumin was raised in diabetic patients (mg l-1) 16.3 (5.2 to 50.9) vs 7.2 (3.2 to 16.5), as was urine N-acetylglucosaminidase (U l-1 6.4 (3.5 to 11.7) vs 2.9 (1.9 to 4.5) and plasma N-acetylglucosaminidase (U l-1) 11.5 +/- 3.2 vs 10.2 +/- 2.3. Normal subjects aged above 65 years, had slightly higher haemoglobin A1c, insulin, C-peptide, plasma and LDL cholesterol, triglyceride, plasma and urine N-acetylglucosaminidase and lower HDL cholesterol than younger subjects. The 2.5 and 97.5 percentiles for biochemical variables are presented for both populations aged 25-65 years.