

U.K. Prospective Diabetes Study 27. Plasma lipids and lipoproteins at diagnosis of NIDDM by age and sex

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OBJECTIVE: To compare fasting plasma lipids and lipoproteins in male and female patients at diagnosis of NIDDM and to examine age and sex differences in lipid concentrations. **RESEARCH DESIGN AND METHODS:** Cross-sectional study of fasting plasma total cholesterol, LDL cholesterol, HDL cholesterol, and triglyceride in 2,139 male and 1,574 female white patients, aged 25–65 years, at diagnosis of NIDDM. **RESULTS:** At diagnosis of NIDDM, the mean age \pm SD for men was 52 \pm 9 and 53 \pm 9 years for women; BMI was 28.3 \pm 4.9 and 30.8 \pm 6.7 kg/m², and fasting plasma glucose was 11.6 \pm 3.6 and 12.4 \pm 3.8 mmol/l, respectively. The mean total and LDL cholesterol were higher in female than in male NIDDM patients, 5.8 \pm 1.2 vs. 5.5 \pm 1.1 and 3.9 \pm 1.1 vs. 3.6 \pm 1.0 mmol/l (both $P < 0.001$), respectively, while triglyceride levels were similar: geometric mean (1 SD interval) for men and women was 1.8 (1.1–3.1) vs. 1.8 (1.1–2.9) mmol/l. HDL cholesterol was higher in female than in male NIDDM patients, 1.09 \pm 0.2 vs. 1.01 \pm 0.24 mmol/l ($P < 0.001$); the sex differential for HDL cholesterol was 7% in NIDDM patients compared with 22% in the general population. Data analysis by 5-year age bands showed a significant trend toward lower total cholesterol and triglyceride and higher HDL cholesterol in men diagnosed above the age of 50 years. In female NIDDM patients, lipid concentrations increased with age of diagnosis but reached a plateau above the age of 50 years. **CONCLUSIONS:** The effect of NIDDM, observed at diagnosis, on plasma lipid and lipoprotein levels is more pronounced in women than in men. This may explain in part why the cardiovascular risk is proportionally higher in female patients.