Hypoglycemia in Type 2 diabetic patients randomized to and maintained on monotherapy with diet, sulfonylurea, metformin, or insulin for 6 years from diagnosis: UKPDS73.

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The UK Prospective Diabetes Study (UKPDS) showed that a more intensive glucose control policy reduced risk of diabetic complications. As hypoglycemia is a barrier to achieving glycemic targets, we examined its occurrence and contributing factors in UKPDS patients randomized to and remaining for 6 years on diet, sulfonylurea, metformin (overweight subjects only), or insulin monotherapy from diagnosis of Type 2 diabetes. Self-reported hypoglycemic episodes were categorized as (1) transient, (2) temporarily incapacitated, (3) requiring third-party assistance, and (4) requiring medical attention, recording the most severe episode each quarter. Proportions of patients reporting at least one episode per year were calculated in relation to therapy, HbA(1c), and clinical characteristics. In 5063 patients aged 25-65 years, only 2.5% per year reported substantive hypoglycemia (Grades 2-4) and 0.55% major hypoglycemia (Grade 3 or 4). Hypoglycemia was more frequent in younger (4.0% <45 years vs. 2.2% >/=45 years), female (3.0% vs. 2.2% male), normal weight (3.6% body mass index <25 kg/m(2) vs. 1.9% >/=25 kg/m(2)), less hyperglycemic (5.2% HbA(1c) <7% vs. 2.3% >/=7%), or islet autoantibody-positive patients (4.3% vs. 2.1% negative) (all P<.0001). More on basal insulin reported hypoglycemia (3.8% per year) than diet (0.1%), sulfonylurea (1.2%), or metformin (0.3%) therapy, but less than on basal and prandial insulin (5.3%) (all P<.0001). Low hypoglycemia rates seen during the first 6 years of intensive glucose lowering therapy in Type 2 diabetes are unlikely to have a major impact on attempts to achieve guideline glycemic targets when sulfonylurea, metformin, or insulin are used as monotherapy.