

Microangiopathic (retinopathy, nephropathy, and neuropathy) and macroangiopathic complications are the major causes of morbidity and mortality of diabetic patients. The main aims of the thesis were the assessment of the effect of pancreas transplantation with long-term normoglycemia on the course of small fibre diabetic neuropathy in type 1 diabetic patients and the comparison of the effect of kidney transplantation on the prognosis of type 2 diabetic and non-diabetic patients. Selected parameters of autonomic nerve function (cardiovascular reflex tests and spectral analysis of heart rate variability) and intraepidermal nerve fibre density in skin biopsies were assessed prospectively following simultaneous kidney and pancreas transplantation in type 1 diabetic patients. In type 2 diabetic patients, patient and graft survival and the occurrence of complications following kidney transplantation were retrospectively compared to matched non-diabetic controls.

Advanced stages of diabetic neuropathy were present in type 1 diabetic patients at the time of transplantation and no significant improvement was seen in any of the assessed parameters following pancreas transplantation with long-term normoglycemia, which is indicative of the presence of irreversible structural small nerve fibre changes. Following kidney transplantation in type 2 diabetic patients, patient and renal graft survival and occurrence of complications except for lower limb amputations were not significantly different from the non-diabetic control group. Thus, similarly to non-diabetic recipients kidney transplantation in type 2 diabetic patients represents a successful method of renal replacement therapy.