

Intestinal transplantation represents a life-saving procedure for patients with an intestinal failure. An experiment on pigs was carried out during the preparation part of a clinical project in the Czech Republic. The main aim of the experiment was to successfully master the transplant surgery technique (i.e. small bowel harvesting, its preservation, followed by the transplantation). Another goal was to decide on the optimal immunosuppressive regime. Immunosuppression was based on tacrolimus monotherapy or its combination with sirolimus. A graft biopsy still remains the most reliable method for the diagnosis of an acute cellular rejection. In an attempt to find a suitable noninvasive humoral marker of the acute cellular rejection, we examined the correlation between plasma citrulin level and the acute rejection. The plasmatic level of proinflammatory and antiinflammatory cytokines was investigated as another potential marker of the rejection.

We succeeded in standardizing the technique of intestinal transplantation. Connecting the graft to aorta and inferior vena cava is simpler and safer than connecting it to the portomesenteric vessel bed due to fewer subsequent complications. Both immunosuppressive regimes seem to be equally effective in preventing the acute cellular rejection. Histopathological examination of the graft biopsy remains indeed the most reliable examination method for the rejection diagnosis. The plasma citrulline level is a marker supporting the diagnosis of moderate and severe rejection after transplantation. The exact role of cytokine examination in detecting the acute rejection was not determined.