Obstruction of pancreatic ducts with a fibrin sealant. Study after segmentary autotransplantation in dog. [French]

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Abstract:

The effects of the main pancreatic duct with a fibrin sealant have been investigated on an experimental model of segmental pancreatic transplantation in the dog. Fourteen segmental pancreatic transplantations were performed. A cephalic pancreactectomy was performed during the same operating time. The main duct was obstructed with a fibrin sealant (Tissucol modified by addition of a solution of aprotinine concentrated at 10,000 KUI per mL). Biological follow-up consisted in: 1) Intravenous Glucose Tolerance Testing at Day 0 and Day 28 with glycaemia's integral calculus and K V Alues. 2) Measurements of glycaemia and serum amylase every three days from day 0 to day 28. Histological examination of the pancreatic tissue before and after transplantation involved a microscopy analysis reporting the degree of fibrosis and necrosis. The areas of the Langherans islets and of the fibrosis were calculated with informatic area analysis. The study was carried on non diabetic dogs at Day 28. The glycaemia's calculus of IVGTT were not significantly different before and after transplantation ($p = 0.291$). On the other hand, there was a significant difference of the K Values before and after transplantation ($p = 0.006$). Histology after transplantation revealed important lesions of fibrosis and normal or hypertropic Langherans islets in most cases. Pancreatic ducts presented with linings thickened with fibrosis. There was no fibrin sealant in the lumen. Obstruction of pancreatic ducts with a fibrin sealant induces an important fibrosis of the pancreatic exocrin tissue allowing the preservation of a satisfactory endocrine function. This technic may be used in clinical practice during the segmental pancreatic transplantations or after cephalic pancreatico-duodenectomy.