

NMR and MRCP After Secretin Infusion in a Long-Term Comparison Study of Pancreogastro- vs. Pancreojejuno-Duodenopancreatectomy

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Context After pylorus-preserving pancreaticoduodenectomy the anastomosis of pancreatic remnant may be done with the stomach (pancreogastric, PGA) or the jejunum (pancreojejunum, PJA). Recently, we have found that, in the long-term, PGA is associated with a more severe impairment of the residual pancreatic function. No data are available on the RNM ability to demonstrate an impairment of the residual pancreatic secretion or morphological changes after surgery. **Methods** Patients who 6 years ago entered a controlled short term comparison of PGA and PJA were studied by RNM and MRCP after secretin infusion (quantification of residual pancreatic volume, pancreatic duct diameter immediately proximal to the anastomosis, qualitative impairment of secretion), and tests of exocrine (fecal elastase-1, fecal fat balance) function. Two radiologists, blinded to the results of functional parameters, independently scored the residual pancreatic volume, duct diameter and secretin-stimulated secretion. Mean±SEM are shown. The

Student's t test was used. **Results** We studied 34 patients (16 PGA, 18 PJA; age 56.6±2.7 vs. 57.5±2.5 years; time from surgery 81±5 vs. 80±3 months). PGA was associated with a more severe impairment of steatorrhea than PJA (26.6±4.1 vs. 18.2±3.6 g/day; reference range: 0-7; P<0.01) and of fecal elastase-1 (70.2±25.5 vs. 121.4±6.7 µg/g; P<0.001). RNM showed in PGA a more marked dilatation of the pancreatic duct (diameter 4.63±0.91 vs. 2.50±0.18 mm, P<0.05) and non significant tendency to a smaller residual pancreas (26.3±3.0 vs. 35.9±4.1 mL; P=0.069). There is a power correlation between residual pancreas and steatorrhea. After secretin infusion, the secretion was consistently considered by two different radiologists to be more frequently impaired in PGA (42%) than in PJA (18%; P=0.05, Fisher test). **Conclusion** The pancreo-gastric anastomosis is associated, in the long run, with more severe morphological and functional impairment of exocrine function than the pancreo-jejunal one.