Impact of Pancreatic Gland Volume on Fistula Formation after Pancreatic Tail Resection

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ABSTRACT

Context Resection of the body and tail of the pancreas, distal pancreatectomy (DP), is associated with high postoperative morbidity, most of which is due to leakage from the pancreatic transection surface. Objective The aim of the current study was to analyze factors that may affect the risk of pancreatic fistula (PF) formation. Patients All consecutive DPs prospectively registered in our hospital database during 1999-2007 were included. Clinically relevant PF grades B and C, defined according to the International Study Group on Pancreatic Fistula (ISGPF) definition were assessed. The impacts of patient, tumor, surgery, and radiology-related factors on the risk of PF formation were assessed by univariate and multivariate analyses. Results DP was performed in 51 patients, median age 59 (range 26-76), 22 of whom had malignant and 29 benign or premalignant disease. PFs were diagnosed in 17 (33%) of the patients. An additional 3 had a local abscess without apparent but assumed pancreatic leakage. PFs occurred more frequently after hand suturing (n = 9 of 13; 69%) of the transection area versus the use of a stapler (n = 8/38; 21%, p < 0.05). A large volume of the pancreatic remnant increased the subsequent risk of PF (OR 5.6; 95% CI 1.4–23.5, p < 0.05). Conclusions Development of PF after distal pancreatectomy remains a challenge. The volume of the remaining pancreas and the technique of closure of the transected pancreas were found to affect this risk, thus allowing future preventive measures to be explored and evaluated in clinical trials.