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One Hundred Pancreatectomies with Venous Resection for Pancreatic Adenocarcinoma

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Abstract

Introduction: Invasion of portal vein (PV)/ superior mesenteric vein (SMV) in pancreatic ductal adenocarcinoma (PDAC) is no longer a contraindication for resection when reconstruction is technically feasible. However, the literature data reached conflicting conclusions regarding the early and long-term outcomes of patients with venous resection and pancreatectomies for PDAC. The study aims to present the outcomes in a large series of patients with pancreatectomies and associated PV/ SMV resection for PDAC, in a single center experience.

Patients & Methods: The data of 100 patients with pancreatectomies and PV and/ or SMV resection performed between 2002 and 2016 (February, 1st) were retrospectively analyzed from a prospectively maintained electronic database, which included 474 pancreatectomies for PDAC. Only patients with a final pathological diagnosis of PDAC were included in the present study.

Results: Overall, 21.1% of patients with pancreatectomies for PDAC required a venous resection (100 patients out of 474 patients). Segmental resection was performed in 77 patients (out of 100 patients with pancreatectomies and venous resection – 77%), while 23 patients (23%) have had tangential venous resection. In the group of patients with segmental venous resection, reconstruction was made by end-to-end anastomosis in 53 patients (out of 77 patients – 68.8%), while in 24 patients (out of 77 patients – 31.2%) a graft interposition was necessary. Negative resections margins were obtained in 63 patients (63%). Histological tumor invasion of the resected vein was confirmed in 64 patients (64%). Postoperative complications occurred in 47 patients (47%), with severe complications (i.e., Dindo-Clavien grade III-V) in 19 patients (19%). Postoperative pancreatic fistulae, delayed gastric emptying and post-pancreatectomy hemorrhage rates were 9%, 20% and 15%, respectively. PV/ SMV thrombosis occurred in 5 patients (5%). The 90-day mortality rate in the group of patients with venous only resection, without any associated procedures, was 8%. Adjuvant treatment was performed in 63 patients (63%), while only 2 patients (2%) underwent neoadjuvant chemotherapy. Median follow-up time was 105 months (range, 3 – 186 months), with a median overall survival time of 13 months (range, 3 – 186 months). In the group of patients with negative resection margins, the median overall survival time was 16 months (range, 3 – 186 months).

Conclusions: PV/ SMV resection during pancreatectomies for PDAC is technically feasible, and grafts are rarely required for venous reconstruction. However, venous resection is associated with high postoperative complications rates, and the mortality rate is not neglectable. The main goal of such complex procedure is to obtain negative resection margins, a situation associated with encouraging survival rates.

Key words: pancreatic ductal adenocarcinoma, portal vein, superior mesenteric vein, complications, survival