Resection of an Isolated Arterial Segment During Pancreatectomy

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Context Isolated involvement of an arterial segment in pancreatic tumors occurs infrequently and does not necessarily mean tumor unresectability being possibly caused by tumor location rather than by excessive growth. Objective We report on the outcome of a highly selected group of patients undergoing pancreatectomy plus resection of an isolated arterial segment at a single Institution. Methods From January 1993 to May 2011 resection of an isolated arterial segment was performed during 26 pancreatectomies. There were 12 males (46.2%) and 14 females (53.8%) with a mean age of 63.6 years. One patient was operated by robotic surgery. Two patients underwent total pancreatectomy (7.7%), 5 pancreaticoduodenectomy (19.2%) and 19 distal splenopancreatectomy (73.1%). Resected arterial segments were celiac trunk (CT) (n=14), hepatic artery (HA) (n=8), CT and HA (n=4). In 6 patients the hepatic arterial flow was re-established by end-to-end anastomosis (n=1), transposition of the left gastric artery (n=1) and interposition of a saphenous vein jump-graft (n=4). Multivisceral resection was required in 9 patients. Results Final pathology disclosed ductal adenocarcinoma (DA) in 18 patients (69.2%), other pancreatic tumor types or periampullary carcinoma in 5 (19.2%) patients and metastatic tumor in 3 patients (11.5%). Fifteen DA patients were node positive (83.3%). Post-operative morbidity and mortality were 55.5% and 3.8%, respectively. After a mean follow up period of 111 months (range 5-225 months), actual survival rate was 64% at 1 year and 20% at 3 years. Equivalent figures for DA were 30% and 15%, respectively. These data favorably compare with an historical cohort of patients with locally advanced DA undergoing palliation without resection. No patient developed local recurrence, despite none received pre- or post-operative radiation. Conclusions In patients affected by DA the resection remains key for cure and possibly provides the best palliative treatment. Highly selected patients with isolated involvement of CT and/or HA may undergo pancreatectomy with results similar to patients without vascular involvement and superior to those offered by palliation or medical therapy alone. The lack of local recurrence seems to be a relevant treatment endpoint.