

Clinical Science

Local pancreatic head resection: the search for optimal indications through quality of life assessments



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Abstract

BACKGROUND: Local pancreatic head resection (LPHR) for chronic pancreatitis has had limited adoption in the United States perhaps because of sparse outcomes and quality of life data.

METHODS: Forty-four patients underwent LPHR and retrospective evaluation of patient outcomes and quality of life assessment was performed.

RESULTS: The mean age was 49 ± 11 years (50% men) with chronic alcohol use as the etiology in 79% of patients. One patient (2%) died within 90 days. The intensive care unit stay was 1.8 ± 3.1 days and postoperative length of stay was 12.6 ± 9.4 days with 96% of patients discharged home. Ten (22%) patients had major perioperative complications. Biliary stricture was the most common late complication (14%). Quality of life assessment results showed that global status (47/100) and physical (66/100), cognitive (68/100), and social (52/100) functions were acceptable. Prevalent postoperative symptoms were pain (52/100), insomnia (56/100), and digestive disturbance (60/100).

CONCLUSIONS: LPHR is safe and effective for a substantial proportion of patients with chronic pancreatitis. Further refinement in the selection of patients most likely to benefit from this operation is warranted.

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Chronic pancreatitis (CP) is a repetitive inflammatory process marked by fibrotic scarring and loss of functional pancreatic tissue. Clinically, this pathophysiologic process is characterized frequently by pancreatic ductal obstruction and severe pain.¹ This process occurs in 8.1 per 100,000 hospital discharges in the United States and is caused by multiple factors including genetic abnormalities, alcohol

abuse, and autoimmune dysfunction; however, the etiology is idiopathic in a substantial number of patients.² The chronic upper abdominal pain, maldigestion, and endocrine dysfunction result in a markedly diminished quality of life that leads to multiple hospitalizations, decreased employment, and alienation from society.^{3,4}

Because of the devastating and long-lasting consequences of untreated CP, effective medical, endoscopic, and surgical treatments have long been sought.⁵ Treatment options include pain control through narcotic administration and pancreatic enzyme supplements, endoscopic pancreatic duct drainage with stents, percutaneous or endoscopic nerve blocks, and surgery. Pharmacologic treatment

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and celiac blockade have not resulted in lasting amelioration of symptoms.⁶ Furthermore, a clinical trial has demonstrated that surgical drainage is more effective than endoscopic drainage in patients with pancreatic duct obstruction.^{7,8}

Surgical options for patients with CP include pancreatoduodenectomy, longitudinal duct drainage, duodenum-preserving resection of the head of the pancreas, and local pancreatic head resection (LPHR).^{7–17} Of the available options, LPHR has been shown to be an effective and durable procedure.^{11,18,19} However, the US experience with this operation remains limited with the largest published case series including only slightly over 20 patients.^{2,10} Despite the presence of European trials suggesting the superiority of LPHR for CP,^{4,5,7,8,10–17,20,21} a recent survey of US pancreatic surgeons indicated that more than 40% of the responding surgeons who perform operations for CP had never performed a duodenal-preserving pancreatic head resection in their practice.² Interestingly, in this survey, the primary reason given for not performing a duodenal-preserving pancreatic head resection operation was not lack of experience, as noted by 16% of respondents, but was the conception that the literature failed to support LPHR use and that other procedures, namely the Whipple and Puestow procedures, were more appropriate (78%).

The aim of this work was to assess outcomes and quality of life assessment (QOLA) following LPHR in a modest series. This project was designed to review the in-hospital morbidity and mortality of a single surgeon performing LPHR for CP and assess the postoperative quality of life and residual pancreatic symptomatology of the postoperative patient. Furthermore, we wished to determine if we could ascertain clinical features that would predict the outcome of patients undergoing LPHR in an unselected series.

Methods

Patient selection

The medical records of patients with CP treated surgically by LPHR and lateral pancreateojejunostomy at the University of Florida were undertaken to evaluate perioperative characteristics, outcomes, and quality of life.^{8,9,22} The Institutional Review Board reviewed and approved our protocol for this investigation. Forty-four patients with a diagnosis of CP underwent LPHR from July 2005 to June 2011. No patients were excluded from the analysis, and, thus, this cohort of patients represents a consecutive series of patients. The procedure, described in greater detail in our previous work, includes a generous pancreatic head resection, a pancreatic ductotomy onto the body and tail of the gland for complete drainage, and an intrapancreatic biliary sphincteroplasty for decompression of an obstructed bile duct.^{22,23}

Data collection

The medical records were reviewed and information was collected on etiology, demographics, clinical presentation and course, morbidity, and mortality. The etiology of pancreatitis was classified as biliary, alcohol, or idiopathic/unknown. Morbidity was classified based on the Clavien–Dindo classification of surgical complications.²⁴ Postoperative pancreatic fistula was defined as noted by the International Study Group on Pancreatic Fistula.²⁵ Mortality was defined as death within 90 days of operation.

Quality of life assessment

Quality of life was determined by conducting a mail or phone survey using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC-QLQ-C30 with supplemental PAN(28) CP).¹¹ This instrument has been validated in the literature for QOLA in patients with CP.²⁶ The QLQ-C30 encompasses both multi-item scales and single-item measures and includes 5 functional scales, 9 symptom scales, and a global health status/quality of life scale along with 6 single items. The supplemental PAN(28)CP incorporates 17 items that address pancreas-related symptoms.²⁷ All scales have a score range from 0 to 100. A high score for the functional scales represents greater health or a higher level of function, whereas a high score for a symptom scale or item represents a greater level of symptomatology. Of the 44 patients who underwent LPHR, 5 patients died as noted in our review of the social security death registry. In addition, 15 patients were contacted by telephone with voice mails on multiple occasions but failed to respond to the survey. Thus, QOLAs were successfully conducted on 17 of the 32 patients or 53% of the study population with whom we made contact.

Statistics

Categorical data were analyzed using contingency table methods, applying the chi-square test or Fisher's exact test as appropriate. Analysis of variance on ranks was used where indicated. Two-sided tests were used and results were considered statistically significantly different at the *P* less than .05 level. Statistical analysis was performed using Sigma Plot Software (Systat Software, Inc, San Jose, CA).

Results

Demographics

The demographic data of the entire cohort are detailed in Table 1. Over the 6 years of the study, 44 patients underwent LPHR. The mean age of the patients was 49.5 ± 11.2 years, half of the patients were men and 80% were Caucasian. The mean follow-up was 40.7 ± 17 months.

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