Long-Term Results Following Pylorus-Preserving Pancreatoduodenectomy for Chronic Pancreatitis

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Summary. A retrospective review of the medical records of all patients who had pylorus-preserving pancreatoduodenectomy (PPPD) for chronic pancreatitis at Lahey Clinic (Burlington, MA, U.S.A.) was performed to assess their long-term outcome. Mean follow-up period was 63 months (range, 1 month to 13.7 years). All patients who were alive were contacted by telephone. In cases in which the patient had died, information was gathered from family members and hospital records. Forty-five patients underwent PPPD for disabling chronic pancreatitis. The mean preoperative duration of pain was 50 months, with 70% of patients requiring daily narcotic. One resection required resection of the portal vein. One patient died within 30 days of the operation. Ninety-two percent had improvement of pain at 5 years. The mean pain score (0–10 scale) was 9.2 preoperatively and 1.5, .8, 1.1, 1.1, and .9 at 6 months, 1 year, 2 years, 5 years, and 10 years, respectively. Seventy-four percent of patients had a postoperative weight gain to an average of 92% of their preillness weight. Diabetes (of new onset) occurred in 14% of patients by 6 months and 46% by 5 years. Hypoglycemia was the cause of death in 1 patient who underwent total pancreatectomy. Four patients died from causes unrelated to PPPD, marginal ulcers occurred in 10% of patients, and 9 patients required late operations. We concluded that, in selected patients, resection of the head of the pancreas achieves long-term pain improvement in more than 90% of cases. The early development of diabetes mellitus is low but over longer follow-up reaches prevalence rates similar to those described in patients who have not undergone resection. Weight gain in this group was superior to that previously reported for our patients who underwent the “standard Whipple” operation for chronic pancreatitis.

Key words. Pancreas—Cancer—Pancreatectomy—Pancreatitis—Diabetes

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Introduction

The management of the patient with chronic pancreatitis represents a challenge to physicians and surgeons of many specialties. The leading indication for surgical intervention is to relieve pain. Historically there has been a shift in favored technique from attempts to perform ductal decompression procedures to resection of the distal pancreas and most recently to resection of the head of the pancreas [1-7]. Even within the group of authors who favor resection of the head of the pancreas there is a difference in opinion as to whether pancreatectoduodenectomy should be performed with or without preservation of the pylorus. Most recently, resection of the head of the pancreas with preservation of the duodenum has been championed by Beger and his colleagues with excellent results [8-10].

While procedures that resect the head of the pancreas seem to provide fairly comparable results for pain relief, there has been extensive discussion of which operations have less deleterious side effects, such as nutritional problems, dumping, gastric stasis, ulcer formation, and other problems. In 1996 we published a report of a group of 45 patients who underwent PPPD for chronic pancreatitis at Lahey Clinic [11]. These patients and a review of the literature serve as the basis for this discussion.

The Lahey Clinic Series

The medical records of all patients who were treated surgically for chronic pancreatitis between January 1, 1980, and July 1, 1994, at the Lahey Clinic Medical Center were reviewed retrospectively. Those patients who were treated with pylorus-preserving pancreatectoduodenectomy (PPPD) as a primary or subsequent procedure were identified as the group for study. In cases in which the patient had died, the appropriate medical information was obtained from the facility at which the patient died (if other than Lahey Clinic) and from spouses and other family members when appropriate. Forty-five patients were ultimately identified as subjects for that report.

Of the 45 patients who had undergone PPPD for chronic pancreatitis, 28 (62%) were men and 17 (38%) were women. Their mean age at time of operation was 47.5 ± 11.3 years (range, 26-72 years). The mean follow-up interval was 63.1 ± 52.9 months (range, 1 month to 13.7 years). The duration of symptoms of pain averaged 49.9 ± 44.6 months (range, 8 months to 15 years). Preoperative pain score was obtained from 37 patients. The mean preoperative pain score was 9.24 ± 2.2 (with a scale of 0 equaling no pain and 10 equaling the highest level of pain). Thirty-seven of 45 patients (70%) had a documented use of narcotic drugs. Twenty-six patients required narcotic drugs on a daily or more frequent basis for extended periods of time preoperatively; 15 required injectable narcotics and 11 required oral narcotics only.

Six patients had obstructed biliary systems at the time of operation and 1 had a past history of bile duct obstruction that was treated without resection of head of the pancreas. No patient had cholangitis or gastric outlet obstruction at the time of operation. Eleven patients had preoperative cholangiopancreatograms; of these 11 patients, 8 had stricture or obstruction of the pancreatic duct. One patient had a dilated common bile duct, 1 had a pancreatic duct stone, and 1 had pancreas divisum.