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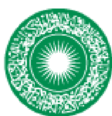

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Surgical palliation for unresectable pancreatic carcinoma

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Surgical Palliation for Unresectable Pancreatic Carcinoma

Abstract

Objective: To review the results of surgical palliation for unresectable pancreatic carcinoma, and to analyze the morbidity and mortality associated with the surgical procedure. The reasons for readmission after discharge from the hospital were also analyzed.

Methods: A retrospective study from 1995 to 2001 was done on 30 patients with pancreatic cancer operated with palliative intent, or those explored with curative intent but histopathology revealed positive resection margins or lymph node metastasis.

Results: Twenty-five (83.25%) patients were above 50 years of age. There were 16 (53.28%) male, and 14 (46.62%) females, 8 (26.64%) had diabetes mellitus, 2 (6.66%) chronic pancreatitis and 4 (13.32%) had smoking as risk factors. Twenty-three (76.59%) patients presented with jaundice, 18 (59.94%) with weight loss, 17 (56.61%) with epigastric pain, 15 (49.95%) with anorexia and 14 (46.62%) with vomiting. Whipple's procedure was performed in 9 (29.97%) patients, triple bypass in 13 (43.29%), choledochojejunostomy and gastrojejunostomy in 3 (9.99%) and gastrojejunostomy alone in 5 (16.65%) patients. Seven (23.31%) patients had preoperative ultrasonography, while CT Scan was done in 24 (79.92%) and ERCP in 8 (26.64%) patients. Histopathology showed positive resection margins in 9 (29.97%) patients and lymph node metastasis in 5 (16.65%) patients. Seventeen (56.61%) patients received less than 2 units of pack cells transfusion. Most of the patients remained admitted in the hospital between 20 to 30 days. Post-operatively, delayed gastric emptying was detected in 6 (19.98%) patients, cholangitis in 2 (6.66%), wound infection in 3 (9.99%), anastomotic leak in 2 (6.66%) and line sepsis in 2 (6.66%) patients. Three (9.99%) patients expired in hospital post operatively. The reasons for re-admission after discharge included abdominal pain in 9 (29.97%) patients, anemia in 3 (9.99%), intestinal obstruction in 3 (9.99%) and urinary tract infection in 2 (6.66%) patients. Follow up record was available for 22 (73.26%) patients. Six (19.98%) patients survived for 5 to 6 months and 9 (29.97%) had a survival between 7 to10 months.

Conclusion: A single surgical procedure can palliate all three symptoms associated with unresectable pancreatic carcinoma, and can be carried out with reasonable safety in selected patients. The commonest indication for re-admission is severe abdominal pain associated with advanced malignancy, hence chemical splanchiectomy may also be considered at the time of surgical exploration (JPMA 54:601;2004).

Introduction

Monteire first described carcinoma of the pancreas in 1836. It is the fifth leading cause of cancer related deaths in United States.1 Significant progress has been made during the last decade in two aspects. First, the operative results for pancreaticoduodenectomy performed for curative intent.2 Second, survival in operated patients for palliation.3,4 It is a disease with poor prognosis. Less than 20% of affected patients had a survival of one year, and five-year survival is less than 3%.5-7 Only 15% of the patients have resectable tumor at the time of presentation.8 With this unfortunate outcome palliation of symptoms to improve the quality of life is of primary importance in majority of the patients. Palliation of pancreatic carcinoma is mainly directed at three symptoms, obstructive jaundice, duodenal obstruction and pain.9 Painless jaundice has been ascribed as pathogonomic in victims of pancreatic cancer, but 30% to 40% of these patients do in fact have pain. 10

The purpose of this study is to review the results of surgical palliation in patients with unresectable pancreatic carcinoma, to see the complications and to understand the reasons of readmission after discharge from the hospital.

Patients and Methods

This is a retrospective review at The Aga Khan University Hospital, over a seven years period, from 1995 to 2001. All the patients diagnosed to have carcinoma of the pancreas and operated with palliative intent or the patients operated with curative intent, but histopathology showed positive resection margins or lymph node metastasis were included in the study. Multiple parameters were analyzed, including presence of risk factors, the presenting symptoms and their duration and co-morbid conditions. The diagnostic modalities used were computerized tomographic scan in majority of the patients. However ultrasonography was also employed in some patients.

Surgical procedures performed, were triple bypass in most of the patients. Pancreaticoduodenectomy was performed in 9 patients. Choledochojejunostomy and gastrojejunostomy and only gastrojejunostomy were also performed. Complications after surgery and in-hospital mortality were analyzed.

The reasons of readmission after the discharge from the hospital, and follow up of these patients were also assessed.

Results

There were 30 patients included in the study. The mean age was 60 + 10 years. There were 16 (53.28%) male and 14 (46.62%) females. Diabetes mellitus was a risk factor in 8 (26.64%) patients, smoking in 4 (13.32%) and 2 (6.66%) had chronic pancreatitis. Jaundice, weight loss and abdominal pain were common symptoms at the time of presentation. The symptoms and the duration of these symptoms are shown in Table.

The mean hemoglobin was less than 10 gm/dl in 7 (23.31%) patients while 18 (59.94%) had a hemoglobin level of more than 10 gm/dl at the time of admission. The serum bilirubin level was more than 5mg/dl in 21 (69.93%) patients and less than 5 mg/dl in 9 (29.97%). Hypertension was present in 9 (29.97%) individuals and 7 (23.31%) had ischemic heart disease as co- morbid conditions.

Ultrasonography was used as a diagnostic modality in 7 (23.31%) cases and computerized tomographic scan was

Table. Clinical presentation and duration of symptoms.

Symptoms	No. of patients	Mean Duration of symptoms (days)	Range (days)
Jaundice	23 (76.59%)	48	10-120
Weight loss	18 (59.94%)	60	20-120
Abdominal Pain	17 (56.61%)	38	10-90
Anorexia	15 (49.95%)	36	14-45
Vomiting	14 (46.62%)	40	2-90
Fever	5 (16.65%)	10	2-20
Abdominal Mass	4 (13.32%)	16	7-30

The mean hemoglobin was less than 10 gm/dl in 7 (23.31%) patients while 18 (59.94%) had a hemoglobin level of more than 10 gm/dl at the time of admission. The serum bilirubin level was more than 5mg/dl in 21 (69.93%) patients and less than 5 mg/dl in 9 (29.97%). Hypertension was present in 9 (29.97%) individuals and 7 (23.31%) had ischemic heart disease as co- morbid conditions.

Ultrasonography was used as a diagnostic modality in 7 (23.31%) cases and computerized tomographic scan was done in 24 (79.92%). Unresectability of the tumor on CT scan could be detected in 11 (36.63%) subjects. ERCP was performed in 8 (26.64%), but it failed in 4 (13.32%) patients. Stenting could be done in 4 (13.32%) patients, but 2 (6.66%) subsequently developed cholangitis and the stent has to be removed.

Pancreaticoduodenectomy was performed in 9 (29.97%) patients, triple bypass in 13 (43.29%), choledochojejunostomy and gastrojejunostomy in 3 (9.99%) and gastrojejunostomy alone in 5 (16.65%) patients. Unresectability was detected peroperatively in 21(69.93%) patients. Adjacent organ invasion and liver metastasis were the common findings in these cases.

Pancreaticoduodenectomy was performed in 9 (29.97%) patients with curative intent, but histopathology showed positive resection margins in these cases and 5 (16.65%) patients had lymph node metastasis. Less than 2 packed cells transfusion were required in 17 (56.61%) patients while 4 (13.32%) required more than 4 packed cells transfusion. Fourteen (46.62%) patients required intensive unit care for 1 to 5 days and 6 (19.98%) required 6 to 10 days of ICU admission. The mean hospital stay was 20 + 5 days (range 10 to 32 days).

Delayed gastric emptying was detected in 6 (19.98%) patients who were subjected to pancreaticoduodenectomy. Cholangitis occurred in 2 (6.66%) patients and treated with antibiotics. Wound infection was encountered in 3 (9.99%) cases. Anastomotic leakage from choledochojejunal anastomosis occurred in 2 (6.66%) patients and both were treated conservatively. One (3.33%) patient had myocardial infarction and another (3.33%) developed deep vein thrombosis in the left leg. Three (9.99%) patients died in the hospital, postoperatively, 2 (6.66%) developed pneumonia, adult respiratory distress syndrome and multiorgan failure and one (3.33%) had myocardial infarction.

The commonest reason of readmission after discharge from the hospital was severe abdominal pain, which occurred in 9 (29.97%) patients. Three (9.99%) were readmitted with intestinal obstruction, 2 (6.66%) with anemia, 2 (6.66%) with urinary tract infection and 3 (9.99%) were admitted for terminal care. The follow up record was available for 22 (73.26%) patients. Six (19.98%) had a survival of 1 to 4 months; another 6 (19.98%) had a survival of 5 to 6 months, while 9 (29.97%) patients had a survival of 7 to 10 months. One (3.33%) case having a survival of 10 months is still alive at the time of completion of this study.

Discussion

Pancreaticoduodenectomy has been advocated as the optimal treatment for pancreatic cancer.11 Majority of the patients have advanced disease, and only 15% have resectable disease at the time of their presentation.8

Identification of a high risk group of patients is difficult.12 The different risk factors associated with carcinoma of pancreas are smoking, increased intake of fat and meat, prior peptic ulcer surgery, diabetes mellitus and chronic pancreatitis.5 There is a weak association between coffee consumption and carcinoma of pancreas.13 In our study, 8 (26.64%) patients had diabetes mellitus and 4 (13.32%) had smoking as risk factors. A well defined high risk group of patients for prospective screening has not been identified.

Majority of the cancers of the pancreas arise in the head of the gland, therefore obstructive jaundice is the common presenting symptom, reported in about 70% of the cases.14 In our study 23 (76.59%) patients had obstructive jaundice. Studies have shown that 30% to 50% of patients with pancreatic cancer present with vomiting.14 In our study 14 (46.63%) patients had vomiting at the time of presentation. Pain is the incapacitating symptom of pancreatic cancer. Literature shows that 30% to 40% of patients have pain at presentation. In our study, 17 (56.61%) patients came with pain as the principal symptom.

The results for palliation of obstructive jaundice, either by surgical bypass or by endoscopic techniques are good with a success rate of over 90%.8 Recurrent jaundice has been noticed in 17% to 38% of stented patients and rarely seen in operated patients.15 The incidence of late duodenal obstruction in endoscopic group is 9% to 14%.16 ERCP was attempted in 8 (26.64%) patients in our study, but it was successful in 4 (13.32%) only and 2 (6.66%) of these patients required removal of their stents due to cholangitis.

The role of pancreaticoduodenectomy for palliation of pancreatic cancer is limited. Pancreaticoduodenectomy was found to be curative in 59% of patients in one study.17 The mean survival in these patients was 10 months.18 In our study 9 (29.97%) patients had positive resection margins after pancreaticoduodenectomy. Their mean survival was 9 months.

The incidence of postoperative complications ranges from 15% to 30% in the literature. Ten (33.30%) patients developed complications after surgery in our study. Pain is the most disturbing symptom of pancreatic cancer. Intra-operative chemical splanchniectomy has been described as an effective modality of pain control.10 Pain relief after this procedure has been achieved in 60% to 88% of the patients.19 Chemical splanchniectomy was not done in our study, and 9 (29.97%) patients were readmitted with severe abdominal pain.

In conclusion, surgical management provides a single procedure that can treat all three symptoms associated with pancreatic carcinoma. Therefore, surgical palliation is a good option in selected patients with unresectable pancreatic cancer. As the commonest indication for re-admission is severe abdominal pain associated with advanced malignancy, chemical splanchiectomy may also be considered at the time of surgical exploration.

References

1. Steel GD, Osteen RT, Wichesnter DP. Clinical highlights from the national cancer database. CA Cancer J Clin 1994; 44:71-80.
2. Camenn JL, Pitt HA, Yeo CJ, et al. One hundred and forty-five Consecutive Pancreaticoduodenectomies without mortality. Ann Surg 1993;217:430-8.
3. Tredem S, Salger H. Survival after pancreaticoduodenectomy: 118 consecutive resection without an operative mortality. Ann Surg 1990; 211: 447-58.
4. Kulhmann KFD, de Castro ORC, Busch ORC, et al. Pancreaticoduodenectomy for palliative treatment of pancreatic cancer. Pancreatology 2002; 2:217-361.
5. Warshaw AC, Castello CF. Pancreatic carcinoma. N Eng J Med 1992; 445: 65.
6. Riker A, Libutti SK, Bartlett DL. Advances in the early detection, diagnosis and staging of pancreatic cancer. Surg Oncol 1998;6:157-69.
7. Lillemoe KD. Current management of pancreatic carcinoma. Ann Surg 1995;221:133-48.
8. Wantanapal, Williamson RCN. Surgical palliation for pancreatic cancer: development during the past two decades. Br J Surg 1992;79:8-20.
9. Lillemoe KD, Barres SA. Surgical palliation of unresectable pancreatic carcinoma. Surg Clin North Am1995;75:953-68.

10. Lillemoe KD, Camenon JL, Kaufman HS, et al. Chemical splanchiectomy in patients with unresectable pancreatic cancer: a prospective randomized trial. Ann Surg 1993; 217:447-457.
11. Forrest JF, Longmire WP Jr. Carcinoma of pancreas and periampullary region. Ann Surg 1979;189:129-38.
12. Jeffery TS. Operative therapy for pancreatic carcinoma. Am J Surg 1986; 151:626-30.
13. MacMahm B, Yens WK. Coffee and cancer of pancreas. N Eng J Med 1981;394:630-3.
14. Singh SM, Longmire WP. Surgical palliation for pancreatic cancer:the UCLA experience. Ann Surg 1990; 212:132 -9.
15. David FG. A Prospective trail of self-expanding metal stents vs polyethylene stents for malignant biliary obstruction. Gastrointest Endosc 1992;38:249.
16. Sarr MG, Cameron. Surgical management of unresectable carcinoma of the pancreas. Surgery 1983;91:123-33.
17. Kairaluma, Stahlberg MK. Results of pancreaticoduodenectomy for carcinoma of head of pancreas. Hepatogastroenterlogy 1989; 36:412-18.
18. Lygididalkis NJ, van der Hyde H. Resective surgical procedure for carcinoma of the head of pancreas. Surg Gynecol Obstet 1989;168:157- 65.
19. Flarigan DP, Kraff PO. Continuing experience with palliative chemical splanchiectomy. Ann Surg 1978; 113:509-11.