Palliative Segment III Biliary Bypass (Left Cholangio-Jejunostomy) in Malignant Block at Porta Hepatis

F JAGANNATH, M S BHANSALI, L J DESOUZA, V SANTHI SWAROOP, K M MOHANDAS

Departments of Surgical Oncology (Gastrointestinal Service) and Medical Gastroenterology, Tata Memorial Hospital, Bombay 400 012

Abstract
Segment III cholangio-enteric anastomosis was performed in 17 patients with obstructive jaundice due to unresectable malignancies at the porta hepatitis. The operative mortality was 6% (1/17) and morbidity 30% (5/17). More than 50% fall in bilirubin level with symptomatic improvement in pruritus was seen in 13 patients. Three patients had 25%-50% fall in bilirubin level. This procedure is safe and effective in palliation of unresectable hilar obstruction. (Indian J Gastroenterol 1992; 11: 71-72)

Key Words: Bile duct neoplasms, biliary tract surgery, extra-hepatic bile duct obstruction, obstructive jaundice.

Introduction
Malignant obstruction of the biliary tract proximal to the junction of the cystic duct and the common hepatic duct is difficult to manage, as the patients usually present late and the tumor invariably involves vital structures around the porta hepatitis. In 80%-90% of such cases, only palliation is possible.

Palliation of jaundice can be achieved by surgical or non-surgical (percutaneous or endoscopic intubation) techniques, each with its own advantages and disadvantages. Several surgical techniques have been described for biliary drainage. Anastomosis of a loop of jejunum to the segment III duct by the round ligament approach was described by Bismuth and Corlette in 1975 and has been shown to provide effective biliary drainage. A retrospective analysis of 17 patients who underwent this procedure for palliation in our center is presented.

Material and Methods
Seventeen patients (12 men, 5 women) underwent segment III cholangio-enteric bypass procedure. The procedure could not be carried out in three other patients as the hepatic fissure had metastatic nodules. The mean age was 52 (range 34-68) years. None had undergone any bypass procedure previously. Three patients had previously undergone surgery for resectable adenocarcinoma in the gastrointestinal tract, two gastric and one rectal; none had metastatic disease at the time of primary surgery. The duration of jaundice ranged from 15 to 150 (mean 63.5) days. Ultrasonography was performed in all but two patients who had CT scans of the abdomen. No patient had histological confirmation of diagnosis prior to surgery. Preoperative ERCP was attempted in one patient but failed.

Abdominal exploration was done through a right Kocher's incision. Histological confirmation was obtained by fine-needle aspiration cytology from the primary tumor or biopsy from the lymph node or metastatic liver nodule in all patients. If the tumor was assessed to be non-resectable (due to invasion of porta, infrahepatic extension of tumor, or liver metastasis), segment III duct was identified by the round ligament approach. A loop of jejunum was isolated in a Roux-en-Y fashion. The end of the jejunal loop was closed and side to side anastomosis was performed to the exposed bile duct with one layer of interrupted 4-0 silk sutures. A 6F stent was placed across the anastomosis and brought out through the jejunum to prevent duct blockage by sludge or blood clot. It was removed after the tenth post-operative day. Serum bilirubin was estimated every third day for two weeks. The post-operative hospital course, morbidity and mortality were recorded.

Results
Ultrasonography allowed correct preoperative diagnosis of obstruction at the porta hepatitis in all patients but failed to diagnose the etiology in 50%. A majority had carcinoma of the gall bladder with infiltration of the porta (9/17). In five patients lymph nodes at the porta were responsible for the block and three patients had carcinoma involving the common hepatic duct extending beyond the hilum of the liver. Seven patients had liver metastases (involving both lobes in four patients and one lobe in three).

The pre-operative bilirubin level ranged from 3.2 to 28.0 (mean 18.8, SD 6.8) mg/dL. Two weeks after surgery, >50% fall in bilirubin level was observed in 13 patients (78%). In three patients the fall was <50% while one showed a rise. Symptomatic improvement in pruritus was
seen in all the thirteen patients who had > 50% fall in bilirubin level.

One patient died due to post-operative renal failure. The operative morbidity was 30% (5/17); three patients had wound infection and two had cholangitis. All were treated conservatively.

Hospital stay ranged from 8 to 20 days. Six patients were lost to follow up one month after surgery. Eight patients were symptom-free at the end of three months. Two patients had died by three months, one of whom had liver metastasis at the time of surgery.

Discussion

The treatment of obstructive jaundice due to malignant obstruction at the porta hepatis is essentially palliative, as the resectability rate is low (10-20%).

The debate regarding the superiority of surgical or non-surgical palliation can be settled only by controlled randomized studies. Non-surgical techniques are available at only a few selected centers in our country. Their success, morbidity, mortality and readmission rates are not superior to surgery.1,4,5

Pre-operative drainage of bile by percutaneous trans-hepatic drainage was not performed in any of our cases because available evidence suggests that it has no additional benefit and carries the risk of sepsisemia due to cholangitis.3

Left cholangio-jejunostomy is a simple technique which needs meticulous attention to details as the duct is delicate and needs gentle handling. The procedure cannot be performed if the tumor involves the hepatic fissure by direct infiltration or metastatic spread.

Use of percutaneous transhepatic cholangiography has been advocated to determine the proximal extent of obstruction and to confirm the patency of the communication between the left and the right ductal systems.6

However, knowing the proximal extent of the disease has limited value for palliative surgery as the segment III duct is far away from the hilum. Also, though drainage of both right and left ductal systems through an open bifurcation is better, decompression of only one ductal system is sufficient to lower bilirubin level. On the other hand, percutaneous puncture of a blocked non-communicating right ductal system may lead to biliary fistula and sepsis. We therefore avoided preoperative percutaneous cholangiography. We recommend segment III bypass for palliation of jaundice in patients with malignant biliary obstruction at porta hepatis.

References


