

Cholangiostomy has many advantages over other palliative procedures. Technically it is an easy procedure, stump of the Left lobe and stomach are already lying in juxtaposition; so there is no tension on the anastomotic line. The thick wall of stomach holds sutures very well and provides a good support against the raw surface of the liver. The presence of bile in nasogastric tube is a very happy sign which ensures the patency of the anastomosis. There is no external loss of bile. The presence of bile in intestinal tract helps in absorption of food. Patient enters into positive nitrogen balance and starts gaining weight.

Cholangiojejunostomy is considered a less effective biliary drainage procedure than can be obtained by other means¹. It involves construction of Roux loop.

Thus there are more than one anastomoses, technically difficult, and takes more time. Sometimes problem starts in loops. Moreover, this procedure has been associated with a significant operative mortality⁵, and has been abandoned by most of the biliary surgeons.

The other methods of biliary drainage are use of stents in different ways. These methods of biliary drainage may be transtumoral, paratumoral, by operative, percutaneous or endoscopic techniques. The comparison of the results of different palliative procedures is difficult; because of difference in patient selection and institutional bias. Operative method of drainage by tubes was popular in early 1970⁶. The advances in radiologic and endoscopic intubation have greatly reduced the need for operatively placed stents. External biliary drainage system, requires daily catheter care and can serve a portal of entry of bacteria. The only advantage is the ease of catheter change in the event of catheter blockage. The permanent external biliary drainage catheters have largely been replaced by completely indwelling stents. Hilar tumors are more difficult to negotiate with endoscopic stents. The failure rate and incidence of subsequent cholangitis are high. Many reports are available describing use of endoprosthesis for the management of malignant biliary obstruction, but there is not enough data describing their specific use in malignant hilar obstructions. The mortality rate at 30 days was 14 per cent and median survival time was 3 months⁸. Approximately 50% patients had episodes of cholangitis, pruritis, and jaundice.

Lai et al (1992)⁴ described that 14 out of 29 patients who had non-operative drainage developed complications, irrespective of method used.

Similarly Devcire et al (1988) noted early cholangitis, which occurred in 37 cases after endoscopic biliary drainage. In cholangiostomy only one case (8.2%) came

on 13th postoperative day with features of cholangitis. We used I/V antibiotics and problem was solved. There was no other episode of cholangitis.

After successful catheter placement, besides the frequent biliary sepsis, and transient haemobilia pain around the puncture site is also common⁹. Moreover, catheter dislodgement and catheter blockage are also serious problems in these moribund cases. Endoscopic prosthesis very often produces pancreatitis and bleeding even in very expert hands. Similarly these catheters need continuous medical help and regular hospital visits.

The repeated endoscopy is also not a pleasant procedure for these old patients. On the other hand cholangiostomy is an easy, cheap and effective method of biliary decompression in which there is short hospital stay, no repeated hospitalization, minimal postoperative complications and least mortality. It is a procedure which does not require much expertise. It can be learnt quickly and can be undertaken safely even in the district hospitals.

References

1. Blumgart, L.H. Hilar and intrahepatic biliary-enteric anastomosis. In: Surgery of the Liver and Biliary Tract. Edited by L.H. Blumgart. Ch 70. London: Churchill Livingstone 1988.
2. Longmore WP, Standford MC. Intrahepatic Cholangiojejunostomy with partial hepatectomy for biliary obstruction. Surgery 1948.
3. Ramesh H Intrahepatic Cholangiostomy for malignant biliary obstruction at hilum. Br. J Surg 1992. 79:1349-1350.
4. Lai C.S.E. et al Choice of Palliation for malignant Hilar Biliary Obstruction. Am J Surg 1992; 163:208-212;
5. Lai E.C.S Tompkins R.K Roslyn J.J and Mann L. L Proximal bile duct cancer quality of survival. Ann Surg. 1987 205: 111-118.
6. Terblanche J; Saunderson S.J and Loow J.W. Prolonged palliation in the Carcinoma of the main hepatic duct Junction Surgery 1972; 71: 720-731.
7. Gibson R.N. Yeung E Hadjis N; et al percutaneous transhepatic endoprosthesis for hilar cholangiocarcinoma Am. J Surg 1988 156: 363-367.
8. Devicre J Baize M, de Toeu J Gremer M. Long term follow up of patients with hilar malignant stricture treated by endoscopic internal biliary drainage. Gastrointest Endosc 1988. 34: 95 - 101.
9. Yamakawa T, Esguerra RD; Kaneko H; Fukuma E; Percutaneous transhepatic endoprosthesis in malignant biliary obstruction of the bile duct World J Surg. 1988; 12:78-84.

with large, bulky masses, present in the portahepatis, with dilated intrahepatic ducts were included in this series. Patients with cirrhosis, metastases in the liver or atrophic left lobe were excluded. Ascites was not a contraindication for this procedure.

Operative techniques

Laparotomy was undertaken by upper midline incision. Preoperative clinical findings were confirmed; and unresectability was ensured. Biopsy was taken from tumor or secondaries. The left lobe was mobilized by division of left triangular ligament. The left lobe was secured between thumb and index finger of the assistant, alternatively a soft clamp may be positioned. A small peripheral portion of left lobe was resected. The liver tissue was gently fractured between index finger and thumb. This maneuver left segment-II duct prolapsing from the left lobe. A polythene catheter (5-10 Fr, according to size of the duct) was inserted in the duct. Chromic catgut sutures were applied over the cut margin of the liver for haemostasis. The stump of the left lobe of liver lies in close proximity of the anterior wall of stomach. An opening equal to the diameter of the segment-II duct was made in the stomach. A posterior layer of interrupted vicryl 3/0 sutures was placed between seromuscular layer of the anterior surface of the stomach, close to opening, and liver parenchyma and posterior capsule. The duct to mucosa anastomosis was performed using interrupted 3/0 vicryl sutures that incorporated the full thickness of the stomach wall and then passed from within the duct outwards. The anastomosis was completed around the tube. Finally, an anterior layer of 3/0 vicryl sutures was placed between seromuscular layer of stomach and liver parenchyma and anterior capsule.

Result

This procedure was performed in 12 cases with locally advanced tumors in the portahepatis. In all cases intrahepatic ducts were dilated on ultrasonography. In two cases percutaneous transhepatic cholangiography was performed. The duct system of left and right lobes was dilated.

All patients had a quick relief of jaundice. 50% Serum total bilirubin level was decreased in 5 days and all patients achieved normal serum bilirubin level in 21 days. (Table -1).

Serum alkaline phosphatase level was not reduced like bilirubin. It remained slightly raised even after getting normal serum bilirubin level. Gastroscopy was undertaken 6-8 weeks after

surgery in 8 cases. There was no endoscopic evidence of gastritis. Similarly patients never complained symptoms of biliary gastritis. All showed nicely patent polythene tube dropping bile in the stomach. The maximum survival was 7 months; and mean was 105 day (98 days to 7 months). All patients remained anicteric till death. We could get biopsy reports of only seven cases. Four were suffering from adenocarcinoma of gall bladder. Two were cholangiocarcinoma and in one it was metastatic carcinoma.

TABLE I
DATA OF PATIENT WITH
MALIGNANT HILAR
OBSTRUCTION

Age	57 - 80 years (means 62 years)
Sex	Male - I Female - II
Serum bilirubin	12 - 24 mg% mean 15 mg%
Alkaline Phosphatase	400 - 300 Units mean 700 Units
Ascites	3 Cases
Associated medical problems	
- Diabetes	4 cases
- IHD	2 cases

TABLE II
EVALUATION OF THE QUALITY
OF THE PROCEDURE

Jaundice	50% reduction in serum bilirubin level in 3 weeks.
Days of Antibiotics Therapy	3 - 5 days
Incidence of Postoperative Cholangitis	8%
Hospital Stay	5 - 10 days (mean 7 days)
Postoperative biliary Gastritis	No
Procedure related Mortality	0
Failure Rate of Procedure	0

Discussion

When confronted with unresectable hilar malignancies selection of an appropriate palliative measure is difficult. Although use of non-operative measures had been widely accepted⁴, their application is not without risks. Similarly operative procedures have got their own problems and risks.

- 13 Campbell C J, Akbarnia B A: Giant cell tumor of the radius treated by massive resection and tibial bone graft. *J Bone Joint Surg*, 1975, 57A: 982-986.
- 14 Parrish F F: Treatment of bone tumor by total excision and replacement with massive autologous and homologous bone grafts. *J Bone Joint Surg*, 1966, 48A: 968-990.
- 15 Depalma A F, Iqbal A and Flannery G: Treatment of giant cell tumors in bone. *Clin Orthop*, 1974, 100: 232-237.
- 16 McGrath P H: Giant cell tumors of bone. An analysis of 52 cases. *J Bone Joint Surg*, 1972, 54B: 216-229.
- 17 Bell R S, Hardwood A R, Goodman S B and Farnasier R L: Supervoltage radiotherapy in the treatment of difficult giant cell tumors of bone. *Clin Orthop*, 1983, 174: 208-216.
- 18 Dahlin D C, Cupps R E and Johnson E W: Giant cell tumor, a study of 195 cases. *Cancer*, 1970, 25:1061-1070.
- 19 Carrasco C H and Murray J A: Giant cell tumor. *Orthop Clinic of North Amer*, 1989, 20:395-405.
- 20 Enneking W F and Shirley P D: Resection - arthrodesis for malignant and potentially malignant lesions about the knee using intramedullary and local bone grafts. *J Bone Joint Surg*, 1977, 59A: 223-235.

INTRAHEPATIC CHOLANGIOGASTROSTOMY A SAFE PALLIATION FOR UNRESECTABLE HILAR MALIGNANCIES

Tayyab Abbas, Javaid Rafique Malik, Mohammad Rafi

Abstract

Intrahepatic Cholangiostomy is a modification of Longmire's procedure in which stomach instead of jejunum is used for the drainage of segment-II duct of liver. This operation was performed in 12 cases with locally advanced tumor, involving portahepatis, producing obstructive jaundice. In all cases, intrahepatic ducts of left and right lobes were dilated. All cases had prompt relief of jaundice. Gastroscopy was done in 8 cases, 6-8 weeks after surgery. There was no endoscopic evidence of gastritis. Ten patients have expired due to primary malignancy and remained an-icteric till death. One patient has been lost from follow up. One is alive and is free from jaundice. There was no operative mortality.

Key Word : Cholangiostomy - Obstructive Jaundice, Palliation, Cholangiocarcinoma

Introduction

Surgical decompression in obstructive jaundice due to malignancies in portahepatis is a complicated and difficult problem. The tumors in portahepatis of whatever origin remain asymptomatic for some time. When jaundice has developed, the disease is considerably advanced in its local spread. At this stage it is rarely possible to do curative procedure. In such circumstances only biliary drainage is indicated. Biliary drainage can be obtained by intubation or biliary-enteric anastomoses to the intrahepatic branches¹. Longmire and Sandford in 1948 described their famous procedure in which segment-II duct of the liver was drained into a Roux loop of Jejunum². When approach to the hilum was not possible Ramesh (1992) described a modification of Longmire's Operation in which the stomach instead of the jejunum is used for drainage of the segment-II duct of the liver³.

Patients and method

All patients presenting with jaundice in our department were examined and investigated carefully. A detailed history was taken and blood samples were taken for Hb%, TLC, DLC and LFTs. Ultrasonography of abdomen was done. Patients

Address for correspondence :
Dr. Tayyab Abbas
 Senior Registrar Surgical-2, Lahore General Hospital (PGMI) Feroze Pur Road, Lahore, Pakistan.