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P.409

Surgical treatment of portal hypertension. Analysis of 116 consecutive cases.

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Surgical treatment usually become a choice of treatment while endoscopic and medical treatment were inefficient especially in patients with previous recurrent variceal bleeding or severe hypersplenism, portal hypertensive gastropathy and biliopathy in portal hypertension (PH) especially in noncirrhotic or early stage of cirrhotic patients

Because of portal pressure drainage into the systemic circulation, Splenorenal shunt procedures result in a marked decrease in all severe PH complication. By preserving hepatopedal flow the Warren's shunt also prevent encephalopathy

In this study, we present 116 patients (83 pediatrics and 33 adults) who underwent 127 surgical procedures because of complicated PH in between 2000 and 2024.

108 patients underwent selective splenorenal and 2 patients underwent Central portocaval shunt procedure. (38 patients underwent Distal Splenorenal (Waren), 69 patients underwent Proximal Splenorenal (PSRS) and one pediatric patient underwent Rex Shunt procedure. 2 adult patients underwent mesocaval shunt. 6 patients underwent Splenectomy (two of them with paraosophagogastric devascularization).Seven patients required early reoperation because of bleeding, chylothorax and early shunt thrombosis, and five of them are treated uneventfully.

Results: Three adult patients died (two of them with operative mortality). One pediatric patient died after liver transplantation. Overall survival is 99% and 90% for pediatric and adult patients respectively. In remaining patients there was no more than Grade 3 Clavien complication.

Six pediatric (7%) and one adult (3%) patients who had occluded shunts had variceal rebleeding required transfusion after operation.

Warren's Shunt patency rate was 78% and 86% and PSRS patency rate was 80% and 75% respectively for pediatric and adult patients.

Despite medical treatment has up to 90% bleeding control in first bleeding; recurrent bleeding rate is up to 60% with high mortality rate. Closure of paraosophagogastric pathways between portal and caval systems by endoscopic ligation will further increase the pressure in the distal part of the varicose veins, may cause formation of fundal varices and progression of hypertensive gastropathy and biliopathy. Effective control of rebleeding and treatment of complications; is possible by draining the high pressure in the portal system into the low pressure caval system. Effective results of spleno renal shunt surgeries have been clearly demonstrated in large series and randomized controlled clinical trials with up to 35 years follow-up. Unfortunately, in clinical practice, selective shunt surgeries are not used as often as necessary, even in appropriate patients, In these circumstances, insist endoscopic interventions in recurrent bleeding episodes instead of surgical treatment may cause high rebleeding, severe pancytopenia, portal hypertensive gastropathy and biliopathy and even mortality especially in patients who have difficulties to access advanced medical centers.

P.410

Using double J stent in liver transplant to prevent bile leak.

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Introduction: Despite all the developments in the field of surgery, the incidence of biliary complications after liver transplantation is 15-65%. With associated mortality of 10%. Biliary leaks are the most common biliary complications especially in early postoperative period. Various suture techniques, internal and external stents have been used in the literature to prevent biliary leaks. In this study, we evaluated the preventive effect of double J stents (djs) placed in the biliary anastomosis on biliary leakage.

Materials and Methods: Since 1988, we performed 676 liver transplant and 37 of these were between November 2022 and January 2024. We used 3Fr X 12cm DJS in the biliary anastomosis of 12 patients. Biliary anastomosis was performed using a 2.5 magnifying surgical loupe, via end bile duct to side Roux-en-Y hepaticojejunostomy (n = 2), hepaticoduodenostomy (n=2), and duct-to-duct choledochocholedochostomy (n=8). We performed interrupted suture with 6-0 absorbable material. After complete posterior row, we inserted djs into the intrahepatic bile duct. After that we complete the anastomosis with interrupted sutures of the anterior wall. In biliary anastomoses with multiple ducts, djs were placed separately in each duct.

Results: We used 14 DJS in the biliary anastomosis of 12 patients. Six of the recipients were pediatric and six were adults. All of the patients were living donor liver transplantation and ABO compatible. Of the surgical procedures, 3 were auxiliary partial orthotopic liver transplants and 1 was domino liver transplant. Of the transplanted grafts, 5 were left lateral lobe, 4 were left lobe, 2 were right lobe and 1 was whole graft. Eight of the biliary anastomoses were duct-to-duct (DTD) anastomosis, 2 were hepaticojejunostomy (HJS) and 2 were hepaticoduodenostomy. Two of the grafts had two bile ducts. In a graft with two bile ducts, we anastomosed the second duct with the cystic duct. In the other graft, we anastomosed the two bile ducts to the common bile duct as a single orifice. Bile leakage from the anastomosis was observed only in 2 patients. In first patient with anastomotic leakage, DJS was endoscopically removed and an internal stent was placed. The other patient's anastomosis was hepaticoduodenostomy and DJS moved to jejenum. We operated for biliary leakage, reinserted DJS and performed primary repair of the anastomotic line. Complete recovery was achieved in both of patients without the need for additional intervention and without the development of stenosis.

Conclusion: In biliary anastomoses, DJS can be safely used to prevent anastomotic leaks in both pediatric and adult patients, regardless of graft type and anastomosis technique.

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