



Robot Assisted Roux-en-Y Hepaticojejunostomy For Post Cholecystectomy Benign Biliary Stricture

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Background : Traditionally repair of postcholecystectomy biliary stricture by tension-free Roux-en-Y hepatico-jejunostomy (RYHJ) is done through a large subcostal or midline incision. The use of the robotic platform for postcholecystectomy biliary stricture is scarcely described. The technique and short-term outcomes of robotic postcholecystectomy biliary stricture repair using DaVinci Xi Robotic Surgical System are described here.

Methods : The procedure was performed with the patient in supine with a split leg position. Four 8mm robotic trocars are placed in a straight horizontal line at the level of umbilicus with at least 6-8 cm distance between trocars. one 12 mm assistant trocar is placed 4 cm below the umbilicus between arms 1 and 2. Before docking intraabdominal adhesiolysis is performed except perihepatic adhesions as it facilitates liver retraction. Key steps are the identification of base of segment 4, preservation of left hepatic artery, lowering of the hilar plate, the opening of the left hepatic duct, identification of right anterior and posterior sectoral duct, preparation of roux limb, and construction of tension-free RYHJ.

Results : Ten patients (Type III stricture in five patients, type IV in 3 patients and type V in two patients) underwent robotic postcholecystectomy biliary stricture repair between January 2018 and March 2021. The median (range) operative time, blood loss, and postoperative hospital stay were 255 (160-350) min, 125 (100-250)mL, and 5 (4-14) days respectively. At a median follow-up of 14 months, 9 patients are asymptomatic with normal liver function tests and one patient had asymptomatic raised alkaline phosphatase.

Conclusions : Robotic postcholecystectomy biliary stricture repair is safe and feasible in expert hands. The long-term outcome needs to be evaluated in a larger series with a longer follow up.

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