8 TIPS TO MAKE THE RECONSTRUCTION PHASE DURING LAPAROSCOPIC PANCREATICODUODENECTOMY EASIER
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Background: The reconstruction phase (hepaticojejunostomy, pancreaticojunostomy, and gastrojejunostomy/duodenojejunostomy) during laparoscopic pancreaticoduodenectomy is technically challenging. The purpose of this video is to demonstrate 8 simple steps that are independent of laparoscopic technical ability, which can help facilitate the reconstruction phase during laparoscopic pancreaticoduodenectomy.

Methods: We used videos from laparoscopic pancreaticoduodenectomies performed at our institutions to demonstrate tips we have learned that can hopefully assist other pancreatic surgeons to decrease the steepness of their learning curve for this part of the operation. The video shows reconstructions with and without using these tips to demonstrate the benefits. We use a standard 6 port placement with patients in the supine, split leg position.

Results: There are 8 simple tips that any surgeon can perform to help make reconstruction during laparoscopic pancreaticoduodenectomy easier. They are: 1) Cut the back row of the bile duct 2-3mm longer than the front row during the resection phase; 2) Perform the hepaticojejunostomy anastomosis with the surgeon standing on the right side of the patients; 3) Leave a clamp on the bile duct when performing the hepaticojejunostomy anastomosis; 4) Dissect out the pancreatic duct and cut it 2-3mm longer than the pancreatic parenchyma when dividing the pancreatic neck during the resection phase of the operation; 5) Use pancreatic duct stents prior to stitch placement to facilitate construction of the inner layer of the duct-to-mucosa pancreaticojejunostomy; 6) Use stay sutures to facilitate stitch placement on the inner layer of the duct-to-mucosa pancreaticojejunostomy; 7) Split the greater omentum vertically to facilitate creation of the duodenojejunostomy or gastrojejunostomy; 8) Control the location of the duodenojejunostomy or gastrojejunostomy with a stay suture.

Conclusion: Laparoscopic reconstruction during laparoscopic pancreaticoduodenectomy is technically challenging. The 8 simple steps described can greatly assist surgeons while learning to perform this complex operation.
Background: Associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) is a novel approach aimed to promote the hypertrophy of a small future liver remnant. The classical ALPPS via an open approach is associated with high postoperative complications. Modification of ALPPS (TAMLAPS) using liver parenchymal ablation to replace surgical liver partition had been proposed, which can potentially reduce postoperative complications. Therefore, we describe our technical approach of robotic microwave liver ablation and portal vein ligation with staged hepatectomy.

Methods: Technique of robotic staged hepatectomy is described. A video is attached to this report.

Results: A 56-year-old man with cirrhosis and chronic hepatitis C presented with a large 9 x 8 x 7.5 cm liver mass occupying segment 7 and 8, concerning for hepatocellular carcinoma. Preoperative CT volumetric scan showed his future liver remnant volume of 20%. The TAMLAPS was undertaken using the Da Vinci Xi™ using a 5-port technique. The operation began with a complete ultrasonic evaluation of the liver. An additional segment 4 anterior surface lesion was found, therefore resected using robotic scissors and hook electrocautery. The stage I of TAMLAPS was undertaken with right hepatic artery isolation (not ligated) and right portal vein ligation using a 2-0 polypropylene suture, followed by microwave ablation of the anticipated liver transection plane under real-time ultrasonographic guidance. A repeat CT volumetric scan on postoperative day # 12 showed an increase in future liver remnant volume to 35%. The patient returned to the operating room for the stage II. Adhesiolysis was undertaken to identify the previously placed polypropylene suture encircling the right hepatic artery, prior to ligation. The right hemiliver was mobilized using hook electrocautery. The liver parenchymal transection was undertaken using a combination of robotic vessel sealer (for vessel ≤7mm) and linear vascular staplers (for vessel >7mm, right hepatic bile duct, and right hepatic vein). The large liver specimen was placed in a laparoscopic retrieval bag and removed through the GelPort site. After each stage, the patient tolerated the procedure well and experienced no post-operative complications. Estimated blood loss was 20 mL and 150 mL, operative duration was 210 and 305 minutes, respectively. The patient was discharged on POD#3 and POD#7 after the stage I and stage II.

Conclusion: Modified ALPPS procedure undertaken by robotic approach is safe and feasible in experienced centers with advanced robotic skills.
V 3. LAPAROSCOPIC RIGHT POSTERIOR SECTIONECTOMY. DISSECTION OF THE ROUVIERE’S SULCUS
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Presenter: Fabio Vergara Suarez MD | IPS Universidad de Antioquia, Clinica Leon XIII

**Background:** Laparoscopy for complex liver resections is an increasingly used alternative worldwide by hepatobiliary surgery groups, achieving the benefits of minimally invasive surgery. The resection of the posterior right sector is a challenging surgery given its location and dissection of sectoral vascular structures. We want to present the case of a hepatic resection of the posterior sector (segments VI and VII) by laparoscopy with Rouvière’s sulcus approach.

**Methods:** We present the case of a 61-year-old woman who, in the context of abdominal pain studies, performed ultrasonography that revealed mass in the right hepatic lobe. Then we complement with abdomen resonance with findings suggestive of biliary cystadenoma in segments VI and VI. It was decided to perform hepatectomy of the posterior right sector by laparoscopy, performing vascular control with Rouvière’s sulcus approach.

**Results:** During the surgery, blood transfusion was not required, Pringle’s maneuver was performed for 8 minutes. Immediate extubation was achieved. He had no signs of liver failure or complications in the postoperative period. She was discharged after 3 days. The freezing and definitive biopsy was compatible with biliary cystadenoma.

**Conclusion:** In the resection of the right posterior sector of the liver, the Rouvière’s sulcus approach allows specific sectoral vascular control, decreasing bleeding and allowing safer hepatic transection.
V 4. ROBOTIC RIGHT HEPATECTOMY FOR HEPATOCELLULAR CARCINOMA AFTER PORTAL VEIN EMBOLIZATION
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Presenter: Iswanto Sucandy MD | Florida Hospital

Background: Liver resection is the ‘gold standard’ curative treatment for hepatocellular carcinoma. Laparoscopic liver resection is a minimally invasive option, however it is associated with technical limitations of straight instrumentation, 2-dimensional views, amplification of physiologic tremor, and a steep learning curve; robotic technology offers solution for these limitations. Herein, we report our technique of robotic formal right hepatectomy for hepatocellular carcinoma after ipsilateral portal vein embolization to induce hypertrophy of the future liver remnant.

Methods: Technique of robotic formal right hepatectomy is described. A video is attached to this report.

Results: 78-year-old man with elevated liver function tests was found by his primary care physician to have a liver mass. Abdominal CT scan showed a 11 x 10 x 8.7 cm hepatocellular carcinoma, located in the right side of the liver with a marginal (i.e., 30%) future liver remnant volume (segment 2, 3, part of 4). The background liver parenchyma displayed signs of early cirrhosis. Comorbidities included morbid obesity (BMI of 42 kg/m2), excessive alcohol consumption, and diabetes mellitus. He underwent right portal vein embolization followed 6 weeks later by repeat imaging which documented hypertrophy of the future liver remnant (35%). The operation was undertaken with Da Vinci Xi™ surgical system using 5 port technique. Liver mobilization began by taking down the right coronary and triangular ligaments. The inflow vessels to the right side of the liver were dissected using the extrahepatic Glissonean approach. The right hepatic artery and the right branch of the portal vein were ligated prior to starting the liver parenchymal transection. The right hepatic duct and right hepatic vein were transected intrahepatically using linear staplers. The right side of the liver with the tumor was removed using an extraction bag. The specimen weighted 1500 grams. Operative time was 240 min with 250 cc of blood loss. Postoperative hospital recovery was uneventful and the patient was discharged home on postoperative day 4. Final pathology report confirmed hepatocellular carcinoma with uninvolved margins.

Conclusion: Robotic right hepatic hepatectomy after portal vein embolization is a safe, feasible, and curative minimally invasive option for hepatocellular carcinoma. This technique should be included in the armamentarium of modern liver surgeon.
V 5. ROBOTIC REPAIR OF IATROGENIC BILE DUCT INJURY
JJ Weis, HB Cunningham, HJ Zeh III, PM Polanco
Presenter: Joshua Weis MD | University of Texas Southwestern Medical Center

Background: Iatrogenic bile duct injury (BDI) is a rare but serious complication of laparoscopic cholecystectomy with an incidence of 0.3-0.6% reported in the literature. Major BDI typically requires reconstruction with Roux-en-Y hepaticojejunostomy, and the majority of these operations are done through an open approach. The aim of this video is to demonstrate the feasibility of a robotic approach for reconstruction after major BDI.

Methods: Our patient is a 76-year-old man who suffered an iatrogenic BDI during a laparoscopic cholecystectomy. He presented to his primary care physician on post-operative day 7 with jaundice. He was referred to a local gastroenterologist for ERCP, which demonstrated a Strasberg E3 injury. He was transferred to our institution for a higher level of care. Our interventional radiology team was able access the right-sided biliary system and traverse the injury with a guidewire. A radiologist placed a pigtail catheter across the injury and into the duodenum to serve as an internal-external drain (see video). The patient was managed with a drain until 8 weeks post-operatively. At that time, we recommended operative reconstruction with a robotic approach.

Results: We successfully performed a Roux-en-Y hepaticojejunostomy with a robotic approach. Critical steps are reviewed in the video.

Conclusion: Robotic repair of a major iatrogenic bile duct injury is feasible even in the setting of delayed presentation. This video clearly demonstrates the key steps and technical maneuvers used in the robotic approach.
V 6. ROBOTIC TRANSDUODENAL AMPULLECTOMY

SS Nagarkatti, RC Pickens, EH Baker, DA Iannitti, D Vrochides, JB Martinie
Presenter: Sushruta Nagarkatti MD | Atrium Health

Background: Our video describes the use of the da Vinci Surgical System Xi® (Intuitive Surgical, Sunnyvale, CA) to perform a transduodenal ampullectomy. The patient is a 61 y.o. female status post cholecystectomy with no history of pancreatitis who presented with chronic abdominal pain. Imaging revealed a dilated common bile duct and relative normal pancreatic duct. She underwent multiple ERCP’s with biliary and pancreatic duct stent placement that resulted in the improvement of her abdominal pain. Her workup for malignancy was negative.

Results: Diagnostic laparoscopy revealed no findings of overt pathology or malignancy. The round ligament was taken down using the monopolar scissors and left attached to the under surface of the liver. This was later used as a vascularized pedicle flap to cover the resection bed of the liver at the end of the procedure. A Nathanson retractor was used to retract the liver and expose the porta hepatis. The robotic vessel sealer was used to mobilize the gastrocolic ligament and gain access to the lesser sac following which the greater curvature of the stomach was mobilized. The pancreas, and duodenum were grossly normal with no signs of inflammation. Intra operative ultrasound was used to identify the critical vascular structures in the porta hepatis and the common bile duct. It did not show pancreatic duct dilation or stones in this patient. The bipolar vessel sealer was used to mobilize the hepatic flexure and kocherize the duodenum. A 10cm longitudinal duodenotomy was made using the monopolar scissors. The monopolar scissors were used to dissect the ampulla away from the medial wall of the duodenum. Once amputated this was sent for frozen section which was negative. The pancreatic and common bile duct were sutured circumferentially using eight 5-0 monocryl sutures. Seven Fr stents were placed in both ducts. The duodenotomy was closed in Lemberted fashion using three barbed sutures. The round ligament flap was then placed in close proximity to the closure to reinforce it.

Conclusion: Intra operative findings were consistent with pancreatic duct stenosis as well as common bile duct stenosis at the ampulla. The patient did well post operatively and recovery was as expected.
V 7. ROBOTIC PUESTOW WITH CHOLEDOCHOSCOPIC LASER LITHOTRIPSY FOR STONE EXTRACTION
PJ Worth, MM Dua, BC Visser
Presenter: Patrick Worth MD | Stanford University

Background: This video demonstrates a case of a robotic Puestow procedure where laser lithotripsy was done via a choledochoscope for pancreatic stone extraction. The patient is an 81 year old female who suffers from chronic pancreatitis. She had a dilated pancreatic duct and a large 2cm stone within the pancreatic head. While an interventional endoscopist made an attempt to address this endoscopically, it was not possible to get a wire around the stone. The surgical plan was to perform a Puestow in an effort to remove the stones and pancreaticojejunostomy for long-term drainage.

Methods: The procedure was done laparoscopically for the creation of the Roux limb and robotically for the pancreaticojejunostomy. For port placement, there were four 8mm working robotic ports all 7cm apart in a slight diagonal line. A 5mm port in the midaxillary line under the right costal margin was used for the liver and stomach retraction during the case and is where we pulled out the surgical drain at the end of the case. Finally, a 12mm assistant port was placed in the right lower quadrant.

Results: The Roux limb was created by dividing the bowel 30 cm past the ligament of Trietz. A side to side jejunoojejunostomy was created in a double-stapled fashion. The robotic drop-in ultrasound probe was used to image the pancreas and guide access into the duct. The robotic scissors was used to open the duct along its axis longitudinally. All the main stones from the body and tail were freed until one remaining big 2cm stone was the only one left. The choledochoscope was brought in through the assistant port and the urologic lithotripsy laser was brought down the choledochoscope. Under vision from the choledochoscope, the laser was pushed onto the stone in the neck of the pancreas to fragment it. This was repeated several times until a wire basket was inserted through the choledochoscope and the stone was successfully extracted. After this, the choledochoscope was able to be driven all the way down the pancreatic duct to the ampulla. The remainder of the pancreaticojejunostomy was completed in 2 layers. The posterior wall was done by taking seromuscular bites of the bowel to align with the pancreas in a side to side fashion. The bowel was then opened along its axis with the scissors and cautery to match the size of the pancreatic opening in the duct. The anterior row was completed with a second stitch done in the more traditional fashion so that it was full thickness bowel to full thickness pancreas. Finally a JP drain was brought through the lesser omentum to sit behind the stomach and over the pancreas.

Conclusion: In summary, the Puestow pancreaticojejunostomy allows for effective stone extraction and pancreatic drainage. This procedure can be accomplished via a minimally invasive approach although multiple techniques may be required to achieve ductal clearance from pancreatic stones.
V 8. LAPAROSCOPIC PANCREATICOJEJUNOSTOMY WITH TRANSPANCREATIC "BLUMGART" AND RUNNING "HOPKINS" SUTURES AND EXTERNAL Pancreatic Duct STENT (PDS)

AM Schneider, ES Tang, E Alonso, PH Newell, PD Hansen

Presenter: Andreas Marcus Schneider MD | Providence Portland Medical Center

**Background:** Laparoscopic pancreaticoduodenectomy (LPD) has been increasingly used in patients at high risk of pancreatic leak due to soft glands and small ducts. Varying open techniques can mitigate the risk of this complication, but translation to laparoscopy can be challenging. We describe a laparoscopic pancreaticojejunostomy with transpancreatic ‘Blumgart’ sutures, anterior and posterior running internal layers and placement of an externalized pancreatic duct stent (PDS) utilizing a Seldinger technique.

**Methods:** A totally LPD was performed with percutaneous introduction of a 8 Fr pediatric feeding tube, via Seldinger technique and standard 11 Fr introducer sheath into the jejunal limb. Sutures were tied together to create double armed sutures (DAS) of adequate length. Two 3-0 Vicryl DAS were used for the transpancreatic stiches, followed by a posterior running 3-0 V-Loc row. The external PDS was placed in the duct and secured with 5-0 Polydioxanone DAS. A second anterior running row was performed and the anastomosis was completed after the final anterior stiches were placed through the intestine and tied down. The PDS exit site was secured similarly to a feeding tube with a 3-0 Vicryl purse string suture and two Witzel stitches.

**Results:** 70 y/o woman with pT2N2 pancreatic acinar cell cancer underwent uncomplicated totally LPD with external stent placement. Patient tolerated the procedure well and was discharged home on POD 5. The externalized PDS was removed at 6 weeks post op. She is now 3 months out from surgery and has not had any complications. She is currently undergoing adjuvant chemotherapy.

**Conclusion:** LPD is an established procedure for the treatment of pancreatic head lesions. Patients at high risk of pancreatic leak - soft glands, small ducts, and/or high BMI - may benefit from adapting open techniques that have been shown to decrease complications such as pancreatic fistulas. This laparoscopic method for placing an external PDS may further mitigate potential complications.
V 9. ROBOTIC RESECTION OF TYPE IV CHOLEDODHAL CYST WITH COMPLETE EXTRA-HEPATIC BILE DUCT RESECTION AND LEFT HEPATECTOMY WITH ROUX-EN-Y RIGHT HEPATICOJEJUNOSTOMY
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Presenter: Adel Alhaj Saleh MD, MRCS | Texas Tech University Health Sciences Center

Background: A 20 year-old healthy female was admitted for abdominal pain, was found to have acute pancreatitis lipase level was 2950. Initial abdominal ultrasound showed a markedly dilated bile duct suspicious for choledochal cyst. Surgery team was consulted. MRCP was ordered, which showed a type IV choledochal cyst involving the entire extra-hepatic bile duct, and extending into the left extra- and intra-hepatic bile ducts. The right main and intra-hepatic bile ducts were spared.

Methods: Surgical plan: Robotic complete extra-hepatic bile duct resection of the entire choledochal cyst, cholecystectomy, left hepatectomy, and roux-en-y right hepaticojejunostomy. Specimen was retrieved from abdomen via a 5 cm Pfannenstiel incision. Operative time 300 minutes. EBL 150 ml Pathology: Fibrotic cystic wall with erosion consistent with choledochal cyst, negative for dysplasia/malignancy

Results: Post-operative Course The patient had an uneventful recovery and was discharge on POD #6 , with normal liver functions tests. 2 and 6-week clinic follow up – no issues On follow up at 6 months postoperatively, patient was doing great. Lab work normal.

Conclusion: Robotic resection of type IV choledochal cyst with Roux-en-Y reconstruction is safe, feasible, and affords the patient the benefits of a minimally invasive surgery, including quick recovery and short length of hospital stay
Background: Cholangiocarcinoma is the most common biliary tract malignancy, and the second most common type of primary liver cancer. It is more common in Asia but its incidence in North America is increasing. CCA can be categorized as intrahepatic (iCCA) or extrahepatic (perihilar – pCCA/distal – dCCA). There are three main staging systems: American Joint Committee on Cancer/Union for International Cancer Control (AJCC/UICC); Liver Cancer Study Group of Japan (LCSGJ); and National Cancer Center of Japan (NCCN). Its clinical presentation is unspecific, and it varies depending on tumor location and stage disease. Combined interpretation with different diagnostic modalities is necessary.

Methods: A 73-year-old female presented with mild abdominal discomfort and back pain to her primary care physician. Laboratory exams were requested, and elevated liver enzymes were noted. Abdominal ultrasound was performed that showed left-sided bile duct dilation. Patient underwent an abdominal MRI that identified tortuous and markedly dilated left intrahepatic bile ducts with lobular enhancing intraductal mass with restricted diffusion in the left main hepatic duct measuring approximately 2.3 x 0.9 x 0.8 cm. ERCP with biopsy was made, and a polyloid lesion in the left bile duct was seen. The papillary epithelium was consistent with high-grade dysplasia with possible intraductal papillary neoplasm or cholangiocarcinoma. Laparoscopic surgery was indicated. Patient underwent a cholecystectomy, hepatoduodenal lymphadenectomy, left hepatectomy, and en bloc caudate resection.

Results: The Patient was in supine position. General anesthesia was induced. A supraumbilical incision was made. The abdomen was entered without difficulty. Hasson trocar was placed, pneumoperitoneum established. The laparoscope was induced, and the abdomen was explored. The patient had no signs of metastatic or peritoneal disease. The left lobe appeared atrophied, and the right lobe appeared quite hypertrophied. No signs of underlying liver disease. Therefore, 2 additional right-sided 12-mm trocars, an epigastric 5 and a left side 5 trocars were placed. An enlarged hepatic artery lymph node was identified, resected and sent for frozen, it was negative for neoplasia. Cholecystectomy and hepatoduodenal lymphadenectomy were performed. The intrahepatic lesion was resectable, and the caudate lobe appeared potentially involved. It was decided to perform a left hepatectomy with en bloc caudate lobe resection. Specimen was analyzed by Pathology, that confirmed grossly and microscopically widely negative margins. The surface of the liver was cut, and packed with gauze and Surgicel. This was completely dry. There was adequate arterial and portal inflow with biliary drainage to the right lobe of the liver, and no sign of bile leak. Surgicel SNoW and Surgicel gauze were placed against the cut surface of the liver, and closed the specimen extraction site with multiple figure-of-eight 0 Vicryl sutures, and desufflated the abdomen through the trocars, removed the trocars, and closed the 12-mm trocar with a single interrupted 0 Vicryl, and closed the skin with running 4-0 subcuticular stitch and covered with Dermabond. Counts were reported as correct. No complications. No drains. Estimated blood loss was 300 mL. Patient tolerated the surgery well, and was discharged on postoperative day 3.

Conclusion: Surgery is the only potentially curative therapeutic option for Cholangiocarcinoma. Minimally invasive approach is challenging, and not widely performed by surgeons. It requires expertise in liver and laparoscopic technique. Despite this, it is feasible, and safe for intrahepatic Cholangiocarcinoma. There are no differences in oncologic outcomes. Blood loss seems to be higher when open surgery is performed, and lymphadenectomy higher in minimally invasive approaches. There are no significant differences between length of hospital stay and complication rates. Laparoscopic liver resection is a treatment modality that should be considered for selected patients with intrahepatic cholangiocarcinoma.
V 11. ROBOTIC ASSISTED RESECTION OF CAUDATE LOBE ADENOMA
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Presenter: Roberto Bustos MD | University of Illinois at Chicago

Background: Liver adenomas are neoplastic lesions with malignant potential. The indication to resection is based on imaging characteristics, symptoms and size of the lesion. The role of minimally invasive robotic liver surgery is expanding. Here we present a challenging case of a giant adenoma of the caudate lobe of the liver.

Methods: A 34 year-old female, presented with vague right upper quadrant pain and early satiety. A CT scan showed a large adenoma of the caudate lobe of the liver. Based on size of the lesion and patient's symptoms, robotic assisted surgical resection was offered.

Results: The patient underwent elective surgery for the adenoma. The operative time was 220 minutes. Blood loss was 200 cc. Post-operative recovery was uneventful and patient was discharged on post-operative day 4.

Conclusion: Robotic platform is a valuable tool for complex liver resections even in the presence of sizable lesions.
Background: Patients with smaller metastatic liver lesions may be effectively treated with limited segmental resections. The patients are most likely to derive benefit from minimally invasive resection as they have relatively little parenchyma resected and they recover quickly if they do not incur a large abdominal incision, with decreased pain and length of stay. Segment 7 is one of the most difficult challenges for minimally invasive liver resection related to a position high and posterior in the liver. We present a robotic segment 7 resection.

Methods: The patient is a 74yo female with previously resected sigmoid colon cancer, stage III. She underwent 4 cycles of adjuvant therapy with a modified regimen of FOLFOX and single agent 5-FU due to side effects. 11 months post resection of her primary tumor she was found to have recurrence with a metastatic lesion in segment 7 of her liver. She was offered a resection.

Results: The approach to this tumor requires a complete right liver mobilization to the right hepatic vein. We found that a large fabric covered retractor placed through an assistant port provides atraumatic elevation of the right liver. We perform a limited caval dissection to insure complete mobilization of the liver. We utilize an intracorporeal robotic pringle maneuver for inflow control. Intraoperative ultrasound is used to guide resection margins. Our approach also utilizes placement of multiple traction sutures for specimen control and elevation out of the liver parenchyma. The liver parenchyma is transected with a vessel sealer. The specimen is removed using a specimen collection bag through the assistant port.

Conclusion: The estimated blood loss in this operation was 100 cc. The surgical margins were clear and the patient discharged to home on the morning of the third postoperative day after an unremarkable postoperative course.
V 13. ROBOTIC REPAIR OF COMMON BILE DUCT INJURY WITH ROUX EN Y HEPATICOJEJUNOSTOMY
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Presenter: Darryl Schuitevoerder MD | University of Chicago

Background: We present the technique of Robotic Roux-en-Y hepaticojejunostomy for repair of common bile duct injury. The patient is a 55 yo F who presented with acute cholecystitis. She underwent a laparoscopic cholecystectomy after which she experienced increasing pain and fevers. A CT was obtained which showed perihepatic fluid, a drain was placed which returned bilious fluid prompting transfer. An ERCP was performed which showed no filling of the common hepatic duct. A percutaneous transhepatic biliary drain was placed, she was treated with antibiotics and allowed to recover. 6 weeks later she was taken to the OR for robotic Roux-en-Y hepaticojejunostomy.

Methods: We start laparoscopically and after freeing multiple adhesions the small bowel is run in order to locate the appropriate segment of jejunum which is then pexed to the stomach to facilitate later reconstruction. We then turn our attention to the area underneath the liver where there are multiple dense adhesions. These are taken down and a generous Kocher maneuver is performed exposing the IVC. As we continue to work, the biloma cavity is entered and the cholangiocatheter is easily visible. We then work to dissect out the structures of the porta hepatis and work to circumferentially free the common bile duct distal to the area of injury. The previously placed surgical clips are then removed and transected the distal CBD using a stapler.

Results: We then dissect the inflammatory tissue away from the proximal CBD exposing healthy duct for our anastomosis. The then set about performing a standard a standard roux en Y reconstruction. A stapled side to side small bowel anastomosis is created and the common enterotomy is closed in 2 layers. We then perform the hepaticojejunostomy with a series of interrupted absorbable sutures. A drain is then placed and the case finished.
V 14. ROBOTIC PORTAL LYMPHADENECTOMY WITH SEGMENT 4B AND 5 RESECTION FOR GALLBLADDER CANCER

SS Nagarkatti, RC Pickens, EH Baker, DA Iannitti, D Vrochides, JB Martinie

Presenter: Sushruta Nagarkatti MD | Atrium Health

Background: Our video describes the use of the da Vinci Surgical System Xi® (Intuitive Surgical, Sunnyvale, CA) to perform a portal lymphadenectomy with resection of segment 4B and 5 of the liver for gallbladder cancer. The patient is a 76 y.o. female who was found to have an incidental pT2pNx gallbladder adenocarcinoma following a laparoscopic cholecystectomy. CT of the chest, abdomen and pelvis were negative for metastatic disease. The procedure was begun with diagnostic laparoscopy which was negative for peritoneal metastasis.

Results: The round ligament was taken down using the monopolar scissors and left attached to the undersurface of the liver. This was later used as a vascularized pedicle flap to cover the resection bed of the liver at the end of the procedure. Firefly™ fluorescence imaging was used to confirm the junction of the cystic duct stump and the common bile duct. The cystic duct stump was then clipped and divided close to the common bile duct. Intraoperative ultrasound was used to identify critical vascular structures and their relationship to the common bile duct and portal lymph nodes. The lymphadenectomy was begun at the lateral aspect of the porta hepatis by incising the peritoneum overlying the porta hepatis and common bile duct. The lateral portal and posterior duodenal lymph nodes were dissected off the common bile duct and portal vein using the monopolar scissors. The lesser omentum was then opened and the hepatic artery lymph nodes were dissected off the hepatic artery. The posterior medial lymph nodes and celiac nodes were also dissected and the specimen was removed en bloc. The EndoWrist® One™ vessel sealer was used to take a wedge of segments 4B and 5 of the liver with a 2 cm margin around the gallbladder fossa. The previously fashioned round ligament flap was then placed into the defect as a vascularized pedicle flap. Final pathology revealed six negative lymph nodes, with a negative cystic duct stump and liver parenchymal margin. The patient’s post-operative course was uneventful and as expected for the procedure.