Motion Picture

MP1
**Robot assisted laparoscopic heller’s myotomy + anterior dor fundoplication for treatment of achalasia**
CCW Chu

A fifty year old gentleman first presented with two months history of dysphagia and repeated vomiting. OGD showed spastic lower oesophagus from 39-45cm, overlying mucosa is normal. Endoscopic Ultrasound showed lower oesophageal sphincter with rosetting and dilated proximal oesophagus. High resolution manometry showed non relaxation and aperistalsis of lower oesophageal sphincter associated with pan-oesophageal pressurisation and spasm, findings compatible with type III Achalasia. Computed tomography ruled out presence of any mass lesion. The attached operative video showed treatment of achalasia with robot assisted laparoscopic Heller’s myotomy, together with anterior Dor fundoplication. The operation last 2 hour 20 mins with minimal blood loss. Patient had smooth post operative recovery and was discharged on post operative Day 3. Subsequent follow up showed resolution of dysphagia.

MP2
**Robotic resection of proximal jejunal tumor**
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**Aim:** Laparoscopic resection of tumor close to the duodenal-jejunal (DJ) flexure is technically difficult due to its deep location and close proximity to major vessels. With the Robotic system, the mobilization of DJ flexure and subsequent intracorporal bowel anastomosis become more feasible.

**Method:** A 85-year-old lady presented with abdominal distension and repeated vomiting. Contrast CT abdomen and pelvis showed a 7.5x4.8cm tumor at proximal jejunum just distal to the DJ flexure.

**Result:** Robotic resection of proximal jejunal tumor was performed. Three robotic arms and one assistant port were used. Left shoulder docking was used for mobilization of splenic flexure, DJ flexure, division of mesentery and resection of jejunum. Then the position was changed to overhead docking for creation of intracorporeal DJ anastomosis. The operative time was 2 hours 50 min. Total blood loss was 30ml. Pathology was gastrointestinal tumor with moderate risk. Resection margin was clear.

**Conclusion:** Robotic resection is feasible for proximal jejunal tumor which is technically difficult to be dealt with by traditional laparoscopic approach. Robotic approach allows intracorporeal anastomosis and patients could enjoy the benefit of minimally invasive surgery.

MP3
**Robotic surgery for huge common bile duct stone**
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A 86-year-old man who had history of hypertension, chronic obstructive pulmonary disease, and small abdominal aortic aneurysm presented with acute cholangitis. Ultrasound and computed tomography revealed dilated common bile duct (CBD) to 6 cm with 8cmx4.6 cm stone inside, and sludge in gall-bladder (GB). In view of poor condition, percutaneous transhepatic biliary drainage (PTBD) was performed. Percutaneous cholecystostomy (PTC) tube was also subsequently inserted for acute cholecystitis. Patient was complicated with haemorrhagic shock due to bleeding duodenal ulcer which resolved with multiple sessions of endoscopic haemostasis. Patient’s condition was stabilized and was discharged.

PTC and PTBD slipped out subsequently. Endoscopic retrograde cholangiopancreatography (ERCP) was done three times in an attempt to remove the huge CBD stone. Despite the use of mechanical lithotripsy basket and Spyglass cholangioscope, no stone or fragment could be removed. A double pig-tail stent was left for biliary drainage. Robotic cholecystectomy and exploration of CBD was offered to patient. GB was removed with fundus first approach. Longitudinal choledochotomy was made. The huge CBD stone was friable and was crushed during manipulation. All stone fragments were removed and placed in plastic bag. Stone clearance
was confirmed by choledochoscopy. CBD was closed with single layer continuous 3/0 absorbable suture over the pigtail stent. Drain was placed on completion. Patient developed postoperative chest infection, successfully treated with antibiotics. He was discharged on day 10. ERCP 6 weeks later revealed no residual stone and stent was removed. Patient remained well afterwards.

MP5
Endoscopic salvage of a duodenal stump leak and surgical transection of the ampulla
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Aim: We illustrate a complex case in which there was concomitant duodenal stump leak and surgical transection of the papilla salvaged by endoscopic methods.

Method and results: A 50 year-old gentlemen with known history of abdominal liposarcoma underwent multiple debulking resection since 2005. His last follow-up computed tomography (CT) showed extensive progression of the tumor. Debulking of the tumor with resection of the uncinate process and the 2\textsuperscript{nd} to 4\textsuperscript{th} part of the duodenum was performed. However, the patient presented with obstructive jaundice on post-operative day 2 and CT scan showed the presence of a dilated common bile and 3.5 cm pancreatic collection. Features suggestive of a transected ampulla and leaking duodenal stump. Urgent percutaneous biliary drainage was performed and the patient was subjected to 4 weeks of conservative management. Unfortunately, after this period of time, the duodenal stump leak failed to settle. Thus, a 2-stage procedure for endoscopic salvage of the condition was formulated. First, internal biliary drainage was achieved by EUS-guided choledochoduodenostomy using a lumen apposing stent. Then, the defect in the duodenal stump was closed by the over-the-scope clip. Post-procedurally, the patient remained stable with decreasing output from the drains. A follow-up cholangiogram showed passage of contrast through the lumen apposing stent and across the anastomosis with no evidence of leakage. The patient was discharged 3 months after the initial surgery.

Conclusion: The combined use of endoscopic closure of a leaking duodenal stump and EUS-guided choledochoduodenostomy successfully salvaged a duodenal stump leak and surgical transection of the papilla and avoided the need for surgical repair.
MP6
Hydro-dissection: a simple way to dissect parathyroid adenoma in a bloodless manner
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Focus parathyroidectomy remained the mainstay of treatment option for patient with primary hyperparathyroidism with concordant localisation study. However, dissection of parathyroid adenoma in this limited operative space was difficult. It resulted in bleeding, capsular rupture, incomplete resection and even parathyroid tissue seeding. We described a simple operative approach to facilitate the parathyroid dissection and enhanced the rate of en-bloc complete resection of parathyroid adenoma.

A patient with localised parathyroid adenoma was arranged for focused parathyroidectomy. 2.5 cm lateral collar incision was made. Sterno-cledio-mastoid muscle was retracted laterally and strap muscles were retracted medially. Dissection continued closed to capsule of thyroid gland and thyroid gland was retracted medially by the Langenbecks’ retractor and carotid artery was retracted laterally. Parathyroid adenoma was identified. 3 ml syringe was connect to cannula of 22G angio-catheter and filled with normal saline solution. Normal saline solution was injected just on the surface of parathyroid adenoma. Connective tissue outside parathyroid adenoma was then separated from adenoma and a plain for dissection would be well defined. After further mobilisation of parathyroid adenoma, pedicle vessels were controlled with metal clips and then divided.

With use of hydro-dissection, capsule of parathyroid adenoma was remained intact. It minimised the bleeding and capsular break during dissection. It also facilitated the dissection and mobilisation of parathyroid adenoma.

MP7
Endoscopic thyroidectomy and central neck dissection via chest and breast approach
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Aim: The concept of minimally invasive thyroidectomy(MIT) has been widely embraced. However, endoscopic central neck dissection, which is deemed necessary by American Thyroid Association (ATA) in high risk papillary thyroid carcinoma patients group, remains a technical difficulty among many surgeons. Herein we present a case of a 35 year-old woman with early diagnosed papillary thyroid carcinoma.

Methods/Video content: The hydrodissection technique created a saline pocket in the subplatysmal space. Then deep cervical fascia was opened longitudinally along the linea alba cervicalis. The isthmus was first divided using the Harmonic device. The superior thyroid pedicle was then divided. The lateral dissection of thyroid was accomplished with meticulous care for identification and preservation of the recurrent laryngeal nerve(RLN) and parathyroid glands. RLN monitor device was used to further help the identification of the nerve. The middle thyroid vein was divided during the process and finally the inferior thyroid pedicle. The ipsilateral central neck dissection was then accomplished along the tracheoesophageal groove in the same fashion. A suction drainage tube is placed after the hemostasis was secured.

Results: The patient was discharged home the next morning, after 24 hours monitoring without postoperative complication.

Conclusion: Endoscopic thyroidectomy and central neck dissection via chest and breast approach is a feasible and safe way to treat early-stage papillary thyroid carcinoma.

MP8
Laparoscopic resection of gastric wall tumor
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Aim: Present a case of laparoscopic resection of gastric wall tumor.

Method: A 57-year-old male patient presented with moderate upper abdominal distension and pain for 1 year. CT scan showed a 4 cm x 5 cm tumor at distal gastric greater curvature. Upper endoscopy revealed a 4 cm submucosal tumor from muscularis propria layer at greater curvature. Laparoscopic resection of gastric wall tumor was performed. The patient was placed in a supine position after general anesthesia. Four trocars were placed. The intra-abdominal pressure was maintained at 12 mmHg. Laparoscopic assessment was performed and a tumor bulge was identified in distal stomach. The greater omentum was dissected free from the greater curvature by ultrasonic dissector. A 5 cm tumor was noted bulging from posterior gastric wall.
Gastrostomy was made with ultrasonic dissection next to the tumor. Circumferential full thickness resection of gastric tumor was completed. The tumor was immediately put into a plastic bag. The gastrostomy was suture repaired with 4–0 maxon in continuous manner. The specimen was then retrieved via subumbilical trocar site after enlargement.

Results: Operation time was 105 minutes. Histopathological examination of resected specimen confirmed the diagnosis of schwannoma. The patient recovered well and discharged on day 4 after the operation.

Conclusion: Laparoscopic resection is a feasible and safe procedure for treatment of selected cases of gastric wall tumor.