

CO-ORGANIZED EVENT

# 13<sup>th</sup> International Conference on Clinical Gastroenterology & Hepatology & 2<sup>nd</sup> International Conference on Digestive Diseases

December 07-08, 2017 Madrid, Spain

## Clinical Use of Liu-POEM and NOTES

**Bingrong Liu**  
Zhengzhou University, China

**Introduction:** With the commencement of clinical use, endoscopy now covers a wide range of usage or clinical examination and minimally invasive surgery. It is a great trend and reality for such techniques to go further into a state of routine approaches in clinical practice. Now, I am willing to introduce the excellence of initiation and development of gastrointestinal endoscopy in three selected facts partly supported by our new development and techniques in our clinical practices and studies.

**Liu-POEM: Peroral endoscopic myotomy (POEM):** POEM was developed to provide a minimally invasive treatment for esophageal achalasia. From this technique, we developed a modified POEM approach and named as Liu-POEM, which is no need for creating a tunnel and hence shortens operation time and alleviates patient's pains remarkably. Now, Liu-POEM has been used by more and more endoscopist in the world.

**Background:** Esophageal achalasia is a primary motility disorder involving absence of esophageal peristalsis, failure of the lower esophageal sphincter (LES) to relax, and cardiac diastolic dysfunction. Peroral endoscopic myotomy (POEM) has emerged as an approach to treating esophageal achalasia. Although POEM is credited with high success rates in the treatment of achalasia, the sub mucosal tunneling is time consuming and commonly requires one-third to two-thirds of the total operation time. For the purpose of improving POEM procedure and shortening operation time, we modified the POEM procedure by combining the procedures of myotomy and tunnelling into a unit step. We named this approach as modified per oral endoscopic myotomy, the Liu-POEM.

### Operational procedures:

- 1) Creation of a 1 cm sub mucosal tunnel at the right or back esophageal wall approximately 8 cm proximal to the esophagogastric junction (EGJ).
- 2) To cut the circular esophageal muscle fibers to the surface of longitude muscle or cut the full muscle layer using the hook and IT knives, and at least a 2 cm cutting distal to the EGJ is necessary.
- 3) The esophageal mucosal entry site was closed with end clips.

In conclusion, Liu-POEM and POEM for the treatment of achalasia has the same therapeutic effect. Liu POEM leads to a significant decrease in operation time compared with POEM and are possibly contributing to a lower rate of complications. Further studies are necessary to confirm this.

### Pure NOTES

**Introduction:** Since Natural Orifice Trans luminal Endoscopic Surgery (NOTES) was first described by Anthony Kalloo, it has attracted tremendous interest from surgeons and gastroenterologists around. Natural orifice Trans luminal endoscopic surgery (NOTES) uses Trans visceral access to the peritoneal cavity through mouth, rectal, colon, and vagina. Now, a number of endoscopic approaches can be performed by NOTES and Pure NOTES. We have performed A series of operations by Pure NOTES, and the most successful one was transrectal gallbladder preserving cholecystolithotomy (TRGPC) and transrectal gallbladder preserving polypectomy (TRGPP) by pure NOTES, which was the first such case series in human beings. Operational procedures the key steps for TRGPC and TRGPP are as below. Ultrasonic examination was required for disease confirmation and assessment prior to operation. Under general anesthesia after routine preparations, the patient was placed in a left recumbent position prior to the initiation of the procedure. A colonoscope was introduced into the transverse colon and the colonic lumen was cleaned with normal saline through the endoscope and then the endoscope was withdrawn from the colon. A detachable prototype balloon which was developed by our team was placed into the transverse colon by a biopsy

# 13<sup>th</sup> International Conference on Clinical Gastroenterology & Hepatology & 2<sup>nd</sup> International Conference on Digestive Diseases

December 07-08, 2017 Madrid, Spain

forceps and was inflated to block the colonic lumen with a suitable pressure inside the balloon (Fig. 1-A). The distal colon cavity was irrigated with normal saline solution and disinfected with a 0.1% povidone-iodine solution. A disinfected endoscope with a transparent cap mounted at the tip of it was used. To ensure a smooth advance of the endoscope and the accuracy in spatial identification in the peritoneal cavity, the Trendelenburg's position is suggested. After sub mucosal saline injections, a 2 cm incision was made on the anterior rectal wall 15-20 cm from the anus by hook and IT knives. The endoscope was advanced into the pelvic cavity, and an incision was made on the peritoneum by hook knife to enable the flexible endoscope pass through into the peritoneal cavity, and then the endoscope was advanced upward into the upper peritoneal cavity with liver and gallbladder identified. A 1.5cm longitudinal incision was made on the gallbladder wall and the bile was aspirated out. The endoscope was inserted into the gallbladder cavity, and stones and/or polyps were found inside the gallbladder. Stone extractor and biopsy forceps were used for removing the stones from the gallbladder. The polyps were coagulated and removed by electric biopsy forceps and were sent for biopsy at once. The muscular and adventitial layers of the gallbladder were closed successfully layer by layer with endoclips. Peritoneal cavity lavage was performed with normal saline till the drainage turned clean. The rectal incision was closed with endoclips and endoloops tightly. At the end of the procedure, the balloon was pulled out after being deflated. The colonic mucosa at the site of balloon blockage was endoscopically normal.

**Results:** All the operations were performed successfully. The mean operation time was 180.5 min. (89-467 min.). 6 hours after anesthesia, the patients could drink water, and liquid diet was resumed 24 hours later. Postoperatively, 4 out of the 41 patients felt mild abdominal distention which disappeared within 12 hours when they were able to get off the bed. All the patients were discharged without any adverse events and all felt good during the follow-ups.

**Conclusion:** In conclusion, minimally invasive surgery is now playing an important role in the fields of surgery and gastroenterology. We believe, along with the innovations in new instruments and techniques, as well as our ceaseless explorations of new things, more and more new approaches and procedures of gastroenterological endoscopy will come up and be widely used in various clinical practices.

## Recent Publications

1. Harper C (2009) The neuropathology of alcohol-related brain damage. *Alcohol and Alcoholism* 44(2):136-140.
2. Heilig M and Egli M (2006) Pharmacological treatment of alcohol dependence: Target symptoms and target mechanisms. *Pharmacology and Therapeutics* 111(3):855-876.
3. Li X, Schwacha M G, Chaudry I H and Choudhry M A (2008) Acute alcohol intoxication potentiates neutrophil-mediated intestinal tissue damage after burn injury. *Shock* 29(3):377-383.
4. Room R, Babor T and Rehm J (2005) Alcohol and public health. *Lancet* 365(9458):519-530.
5. Sullivan E V and Zahr N M (2008) Neuroinflammation as a neurotoxic mechanism in alcoholism: Commentary on increased MCP-1 and microglia in various regions of human alcoholic brain. *Experimental Neurology* 213(1):10-17.

## Biography

Bingrong Liu is Doctor of Medicine. He is a President of the GI Hospital, The First Affiliated Hospital of Zhengzhou University. He initiated the painless gastroenteroscopy examinations in 2002 in the three northeast provinces. He has been engaged in the work of interventional treatment of liver cancer and achieved a good result. He and his team has initiated and completed a series of pioneering techniques in the world in recent years. Every year since 2010, he has shown himself at different international conferences as a speaker, and has been invited by many countries to carry out academic reports and demonstrations. He enjoys a high reputation both at home and in abroad. In 2015, the Transrectal Gallbladder-Preserving Cholecystolithotomy via pure notes won the eightieth American Digestive Association (ACG) video contest champion.

2110858887@qq.com