Parastomal hernia following formation of an ileostomy or colostomy is one of the major complications of colostomy with high occurrence. From October 2011 to November 2014, a retrospective study was conducted by analyzing and following up data of 16 patients suffering from parastomal hernia who underwent a hybrid technique repair. The safety and efficacy of the hybrid technique for parastomal hernia repair was investigated in terms of complications. All cases were operated successfully and had no major immediate postoperative complications other than mild abdominal pain in 5 cases. No long-term postoperative complications were reported in the follow-up. The authors found hybrid technique to be safe and effective for parastomal hernia repair with fewer complications.

**Key Words:** Parastomal hernia, Hybrid technique, Laparoscopy.
All cases were performed successfully by hybrid technique with a mean operation time of 167.2 ±52.2 minutes and a mean postoperation hospital stay of 9.9 ±2.2 days. Ten cases were operated by Technique 1 and other 6 cases by Technique 2. All patients were followed-up for 16.6 ±8.8 months and all of them were found without any obvious seroma, recurrence or bulging.

Parastomal herniation is a frequent complication of stoma formation with one-third of these requiring early operative correction and usually open or laparoscopic parastomal hernia repair. Laparoscopic techniques have advantages of less trauma, quick recovery and low complication rate compared with the original open approach. However, the new hybrid approach for complex parastomal hernia repair, as described herein, combines a laparoscopy with an open approach which can have advantages of both the open and laparoscopic approach in order to increase the efficacy of surgery and avoiding their disadvantages at the same time. Compared with traditional laparoscopic parastomal hernia repair, hybrid technique allows the removal of excess skin and sac; thus resulting in better cosmetic effect. For difficult cases with dense abdominal adhesions, recurrent stomal hernia and strangulated or obstructed stomal hernia with intestinal obstruction, Technique 2 is more feasible since adhesions can easily be separated with less bowel injury under open vision. Besides, through open incision, the hybrid technique allows closing the hernia ring with interrupted suture and the simple placement of sleeve mesh, which is more reliable with less recurrence than common meshes. On the other hand, compared with traditional open parastomal hernia repair, the hybrid technique still enjoys the convenience brought by laparoscopic procedure, including the immobilization of the mesh with stapling and smaller incisions. Therefore, the hybrid technique combines the advantages of traditional open and laparoscopic parastomal hernia repair together, possessing better cosmetic effect with easier manipulation.

The following points should be considered during hybrid approach. For laparoscopy, trocars are placed away from the defect edge to leave enough space for mesh flattening and to avoid the damage of adhesive bowel. The blunt dissection or scissors dissection should be used for the separation of adhesions close to the peritoneum. The abdominal wall should be examined carefully for occult defect. Stoma bowel should be freed up to subcutaneous part. New stoma should be created according to the length of intestine and size of parastomal hernia. The pneumoperitoneum pressure needs to be reduced to 1.1 - 1.3 kPa before spiral metal tacks are nailed. For open technique, hernia sac is opened via annular incision along the stoma, and sagging skin with scar tissue is cut off. Limiting the wound to the adequate size to separate adhesions and placing the mesh, helps prevent or minimize wound complications. Maximal resection of hernia sac can reduce the risk of postoperative complication and aid to abdominal wall reconstruction.

Overall, the hybrid approach was found to be safe and effective for the complex parastomal hernia repair with less complication; and larger randomized clinical studies will be helpful to determine long-term outcomes of surgery and recommendation for extensive clinical use.

REFERENCES