

Laparoscopic Puli repair for parastomal hernia after total cystectomy - Case reports -

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Introduction

Parastomal hernia has traditionally been treated with intraperitoneal repair such as the Sugarbaker repair, but recurrence rates remain high and treatment outcomes have been unsatisfactory. Meanwhile, with the introduction of TAR (Transversus Abdominis Release), preperitoneal repair has been widely adopted for incisional hernia repair with good outcome. We will report two cases of parastomal hernia treated by laparoscopic preperitoneal repair using the Pauli technique.

Case1 87 years old Male EHS typelV

The patient received open cystectomy with ileal conduit urinary diversion 8years before. He began to experience symptom of obstruction from last year and were referred for treatment

The CT scan revealed herniation of the small intestine around the ileal conduit and the formation of an incisional hernia at the median laparotomy



Case2 50 years old Male EHS typell

The patient received robot assisted cystectomy with ileal conduit urinary diversion last year. He began to experience symptom of obstruction a few months after surgery and were referred for treatment

The CT scan revealed herniation of the small intestine around the ileal conduit and the formation of an incisional hernia at the median laparotomy



Surgery for Case1

A small upper midline incision was made, and single-port TEP (Totally Extraperitoneal) approach was used to perform bilateral retro-rectus dissection and TAR. Sufficient retro-rectus and preperitoneal dissection was performed in both the incisional and parastomal hernia areas. The ileal conduit was lateralized, and the peritoneum and rectus muscles were sutured separately. The concurrent midline incisional hernia was then repaired. The ileal conduit was covered with an anti-adhesion fiber-sheet and fixed to the abdominal wall with mesh, followed by placement of additional mesh in the preperitoneal space to complete the surgery.



Initial observation

Preperitoneal dissection

Opening hernia

Defect closure



Anti-adhesion sheet

Reinforce with self-grip mesh

Lt retro-rectus dissection
 Initial incision
 Rt retro-rectus dissection
 Rt TAR and preperitoneal dissection



Surgery for Case2

Suregry was carried out almost same fashion as Case1. In this case, the mobility of the mesentery was poor, and a mesh was applied following the Kehole method."

At 15(case1) and 12(case2) months post-operation respectively, no adverse events have been observed.



Discussion

Conventional intraperitoneal repair methods for parastomal hernia have been reported unfavorable outcome. Laparoscopic preperitoneal dissection in the pelvic cavity after total cystectomy is technically challenging due to dense adhesion and scar formation after previous treatment. However, introducing the Pauli technique with laparoscopic surgery allows for reliable abdominal wall repair and lateralization of the bowel with mesh, suggesting promising treatment outcomes than other intraperitoneal repairs.