



Oncology

Rare small bowel obstruction: Parastomal hernia of cutaneous ureterostomy after robot-assisted radical cystectomy. Case report

Shugo Yajima^{*}, Yasukazu Nakanishi, Shunya Matsumoto, Kenji Tanabe, Hitoshi Masuda

National Cancer Center Hospital East, Chiba, Japan



ARTICLE INFO

Keywords:

Parastomal hernia
Radical cystectomy
Bladder cancer
Robot-assisted radical cystectomy

ABSTRACT

Robot-assisted radical cystectomy with or without intracorporeal urinary diversion has recently been explored as a viable surgical option for multiple, recurrent and muscle invasive bladder cancer.

In this report, an 84-year-old female diagnosed as having invasive bladder cancer underwent robot-assisted radical cystectomy with intracorporeal cutaneous ureterostomy: in the third postoperative day, computed tomography of the abdomen was suggestive of incarcerated hernia through the abdominal wall defect created by the left ureterostomy.

Subsequently, the parastomal hernia was repaired laparoscopically.

To the best of our knowledge, this is the first report of a symptomatic parastomal hernia related to the cutaneous ureterostomy.

Introduction

Bladder cancer is one of the most common malignancies of the urinary system. Radical cystectomy is the standard treatment for patients with multiple, recurrent and muscle invasive bladder cancer (MIBC), and robot-assisted radical cystectomy (RARC) with or without intracorporeal urinary diversion has recently been explored as a viable surgical option.

Randomized control trials comparing RARC to open radical cystectomy have been completed with mixed results, but review of the available literature demonstrates increasingly larger prospective series with comparable and sometimes superior perioperative outcomes and complication rates.^{1,2}

There are various methods about postoperative urinary diversion: cutaneous ureterostomy is one way of urinary diversion, mainly applicable to elderly patients with poor physical condition, underlying diseases, advanced cancer and not be tolerated for a lengthy surgery.

This time, we report a case of a patient with MIBC who underwent RARC and intracorporeal cutaneous ureterostomy: she experienced parastomal hernia of cutaneous ureterostomy and subsequent small bowel obstruction.

Case

An 84-year-old female diagnosed as having invasive bladder cancer underwent RARC with intracorporeal cutaneous ureterostomy using a Da Vinci Xi surgical system (Intuitive Surgical Inc., Sunnyvale, CA, USA).

Following RARC, pelvic lymph node dissection, radical hysterectomy, bilateral salpingo-oophorectomy and resection of anterior vagina en bloc, the specimen was retrieved through the vagina.

Subsequently, we made two small incisions (approximately 5mm each) symmetrically in the right-lateral abdominal and left-lateral abdominal in order to insert the laparoscopic grasping forceps.

Without tension and distortion, both ureters were pulling out of the abdominal wall for 1 cm respectively using grasping forceps.

The ureter and rectus sheath were fixed together. A longitudinal incision (approximately 5mm) was used for the ureter outside the abdominal wall, which was sutured with the skin interruptedly and forms a semi papillary structure.

In the third postoperative day, she presented some episodes of left abdominal pain, as well as nausea and vomiting. Laboratory investigation demonstrated hemoglobin of 9.2 g/dL, white blood cell count of 14,500/ μ L, and C-reactive protein of 27.71 mg/dL. Computed tomography of the abdomen and pelvis was suggestive of incarcerated hernia

Abbreviations: MIBC, (muscle invasive bladder cancer); PSH, (parastomal hernia); RARC, (robot-assisted radical cystectomy).

^{*} Corresponding author. National Cancer Center Hospital East, 6-5-1 Kashiwa no ha, Kashiwa city, Chiba, 277-8577, Japan.

E-mail address: shuyajim@east.ncc.go.jp (S. Yajima).

<https://doi.org/10.1016/j.eucr.2021.101566>

Received 29 December 2020; Accepted 7 January 2021

Available online 11 January 2021

2214-4420/© 2021 Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

through the abdominal wall defect created by the left ureterostomy (shown in Fig. 1).

Subsequently, she underwent another laparoscopic surgical procedure. The port insertion was performed through the previous periumbilical incision (12-mm port) and previous right abdominal incision (5-mm port), with the identification of herniation of the small bowel through the left ureterostomy along with incarceration (shown in Fig. 2).

Laparoscopically, the incarcerated and herniated small bowel loops (approximately 10 cm) were repositioned into the abdominal cavity by using laparoscopic grasping forceps.

The viability of the bowel was confirmed (color and peristalsis) after some minutes of observation.

The port closure needle (Endo Close®) was inserted into the abdominal cavity, noting that the closure needle causes no injury to the left ureter, then the muscular layer and the peritoneum were sutured using zero Maxon® (polyglyconate). The total operative time was 48 minutes.

The patient presented a satisfactory postoperative course: clear liquids were offered in the second postoperative day, and a significant reduction of the levels of white blood cells and C-reactive protein was progressively observed.

Although the patient had been in distress to learn how to change her ostomy pouch, she was discharged home in the twenty-ninth postoperative day.

Discussion

Cutaneous ureterostomy is one of the urinary reconstructive options available after radical cystectomy for bladder cancer, which is mainly applicable to the patients who are with general poor conditions, older age, short life expectancy, or associated with intestinal disease.³

In this report, an elderly (84-year-old) patient underwent RARC and bilateral cutaneous ureterostomy which resulted in shortening the time of a surgery: meanwhile, she suffered from a symptomatic parastomal hernia (PSH) at the left cutaneous ureterostomy.

Broadly defined as an incisional hernia located at or immediately adjacent to a stoma, a PSH develops in up to 78% of patients with a stoma and typically occurs within 2 years of ostomy creation.⁴

The current literature contains a broad range of PSH rates as a result of varying definitions, method of diagnosis, length of follow-up, and type of stoma: the rate of herniation at a urostomy (ileal conduit) site seems to be similar to that of an end ileostomy with a range of 5–28%.⁴ Whereas, to the best of our knowledge, this is the first report of a symptomatic PSH related to the cutaneous ureterostomy.

Generally, in regard to port site hernia, it is recommended to close the fascial defect if the trocar size is larger than 10 mm.⁵

In our case, both ureters were pulling out of the abdominal wall using grasping forceps and which may have caused the fascial and peritoneal dehiscence larger than 10mm: this can be considered as one of the causes of ureterostomy PSH.

It may be beneficial to perform the plication of the fascial and peritoneal defects, when the defect of the abdominal wall created by the ureterostomy exceeds 10 mm in size.

In conclusion, we presented a first case of the ureterostomy PSH which was laparoscopically repaired.

A large-scale prospective, randomized, controlled trial will be required to prove the feasibility and safety of the RARC with intra-corporeal cutaneous ureterostomy.

Financial conflict of interest

None.

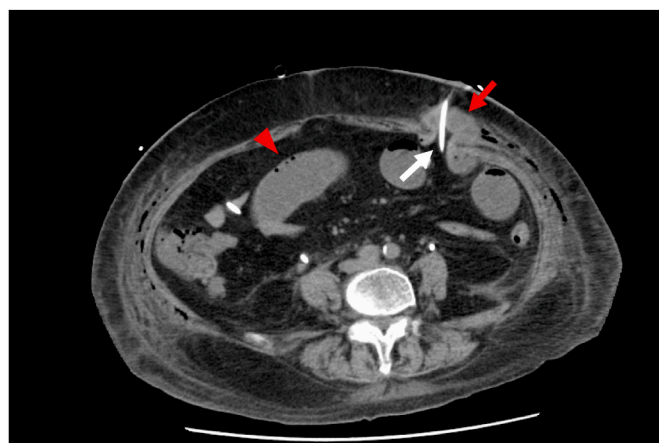


Fig. 1. Computed tomography of the abdomen and pelvis demonstrating the presence of small bowel loops herniated through the left abdominal wall (red arrow), with dilated proximal small bowel segments (red arrowhead), suggestive of incarcerated parastomal hernia. The white arrow indicates the left ureteral stent.

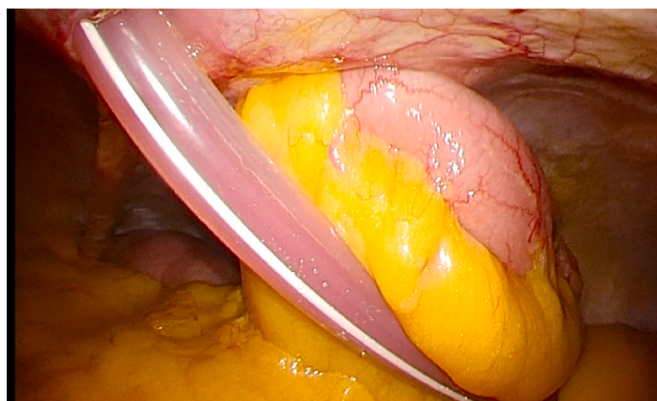


Fig. 2. Laparoscopic surgery confirming the presence of an incarcerated hernia through the abdominal wall defect created by the left ureterostomy.

Declaration of competing interest

None.

Acknowledgements

I gratefully acknowledge the members of our department.

References

- Li K, Lin T, Fan X, et al. Systematic review and meta-analysis of comparative studies reporting early outcomes after robot-assisted radical cystectomy versus open radical cystectomy. *Canc Treat Rev.* 2013 Oct;39(6):551–560.
- Martin AD, Nunez RN, Castle EP. Robot-assisted radical cystectomy versus open radical cystectomy: a complete cost analysis. *Urology.* 2011 Mar;77(3):621–625.
- De Nunzio C, Cindolo L, Leonardo C, et al. Analysis of radical cystectomy and urinary diversion complications with the Clavien classification system in an Italian real life cohort. *Eur J Surg Oncol.* 2013 Jul;39(7):792–798.
- Aquina CT, Iannuzzi JC, Probst CP, et al. Parastomal hernia: a growing problem with new solutions. *Dig Surg.* 2014;31(4-5):366–376.
- Itoh T, Fuji N, Taniguchi H, et al. Port site herniation of the small bowel following laparoscopy-assisted distal gastrectomy: a case report. *J Med Case Rep.* 2008 Feb;2:48.