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LETTER TO EDITOR

Successful treatment of rupture of anastomosis after rectal cancer by transanal drainage tube with negative pressure flushing: A case report

KEYWORDS
Rectal cancer;
Anastomotic leakage;
Transanal drainage tube;
Negative pressure flushing

To the editor,

A 44-year-old woman who was admitted to hospital because 4 months of repeated stool with blood and suffering from diabetes. The colonoscopy showed the distance between the tumor and the anus was 3 cm and pathology was adenocarcinoma. After 6 cycle of neoadjuvant therapy and 1 cycle of radiotherapy, this patient accepted laparoscopic LAR for rectal cancer. During the operation, we found the rectum wall thickens, resulting in anastomosis nail shedding. We made the reinforcement during the operation and the inflatable experiment was negative. In order to prevent AL, preventive ileostomy was implemented and placed the anus and pelvic drainage tube. The patient pulled out the pelvic drainage tube by accident on the 3rd day after operation. Patient showed fever on the 7th day, the white blood cells were elevated and the drainage fluid was muddy. But there was no obvious peritoneal stimulation, colonoscopy showed the anastomosis completely rupture, a large number of abscesses around the anastomosis (Fig. 1). As preventive ileostomy was implemented during the operation and the patient wanted to retain the anus, we tried to treat the AL with transanal drainage tube with negative pressure flushing (Fig. 2). The patient agreed and signed the informed consent statement. During the treatment, the patient had symptoms of urinary tract infection and ultrasound showed for bladder stones and received lithotripsy under cystoscope and anti-infection treatment. After 2 months of treatment, the colonoscopy found that the anastomosis was fully healed and there's no evidence of a tumor recurrence (Fig. 3). The patient began to take the next step in radiotherapy and chemotherapy.

The aim of patients undergoing neoadjuvant therapy and chemotherapy is to reduce the pathological staging of tumor, increase the resection rate of tumor and the success rate of anus-retaining surgery.[1] Some studies have shown that this measure is an independent risk factor for AL. The reason may be that radiotherapy and chemotherapy can lead to tissue fibrosis, less vascular and low immune function.[2] During the operation, we found rectum wall thickens, resulting in the failure of the first anastomosis. We made the reinforcement during the operation and the inflatable experiment was negative, but also increased the risk of AL. We speculate that this is the main reason for the completely rupture of the patient's anastomosis.

The transanal drainage tube was considered to be a non-invasive alternative to the ileum ostomy for fecal metastasis, which can effectively reduce intestinal pressure, drain the dung residue and promote anastomotic healing.[3] In a retrospective study of 536 patients, it was found that the placement of transanal drainage tube could not reduce the incidence of AL, but when AL occurs, the chance of

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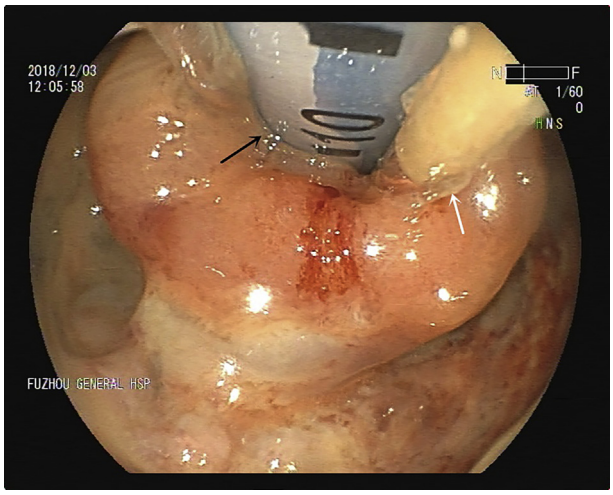

Figure 1 On the 7th day after rectal surgery, colonoscopy showed the anastomosis completely rupture, abscesses around the anastomosis clearly. The black arrow is the transanal drainage tube, the white arrows are the 6F suction catheter responsible for flushing.

requiring reoperation can be reduced.[4] However, Kawachi J et al[5] proposed that transanal drainage tube were independent risk factors for permanent stoma.

In this patient, on the basis of nutritional support, the patient received the anti-infection and transanal drainage tube with negative pressure flushing treatment. Timely drainage of intestinal contents, purulent secretions and necrosis tissue, improve local microcirculation, promote the growth of granulation tissue and the healing of AL. The use of the anus tube avoid the problem of incomplete drainage caused by easy bending of silicone tubes. The use of sticky fixation in the patient's hips reduces the pain caused by the suture fixation in previous reports. The proximal of the double casing was closed and crossed the proximal of the anastomosis about 5 cm, a 6F suction catheter was fixed to the outer side of the double casing with saline water, a 12F suction catheter and a radiography string were fixed in the internal with negative pressure flushing. Through the chassis of ostomy bag, the double casing was fixed to the perianal skin. The negative pressure kept in about 0.01Kpa～0.02kpa (0.075 mmHg—0.15 mmHg), The drip speed kept in about 200 ml/h and continuous flushing. In the process of flushing, we should pay attention to observe the degree of drainage tube unobstructed, the color and character of drainage fluid, according to the turbidity of fluid to adjust drip speed to ensure that the drainage tube unobstructed and the anastomosis is relatively clean. Through angiography or colonoscopy to evaluate the anastomosis healing condition every two weeks. Patient were encouraged to move sideways in bed or get out of bed, reducing the complications that may result from bedridden. Eventually, the patient's AL fully healed and began to undergo the next step in the treatment of the tumor.

In general, patients with laparoscopic LAR for rectal cancer who have experienced neoadjuvant therapy and chemotherapy, due to the thickening of the intestinal wall, the anastomosis nail is easy to fall off, more likely to have AL, and even the anastomotic is completely rupture. The use of transanal drainage tube with negative pressure flushing might avoid patients who with AL undergoing reoperation.

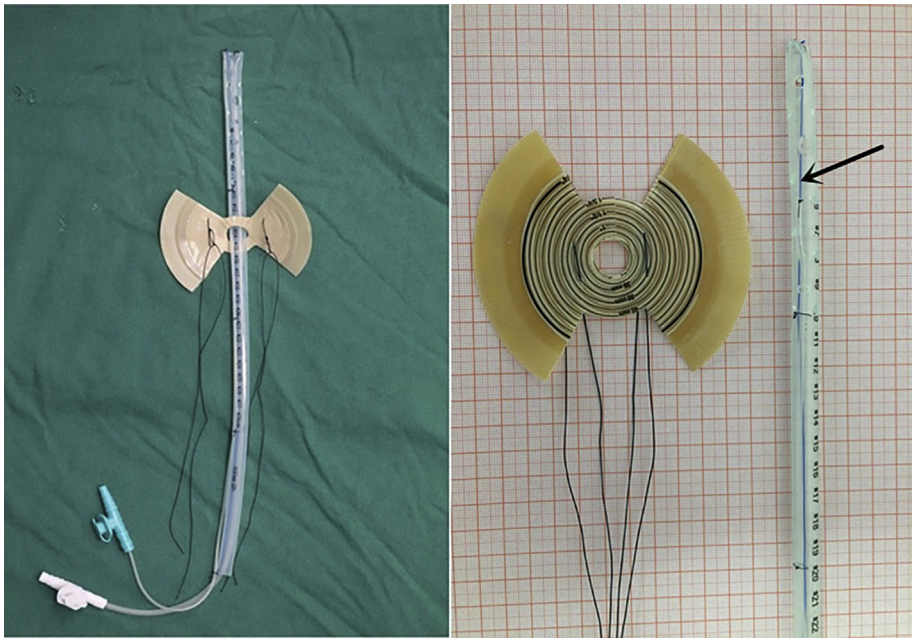

Figure 2 The transanal drainage tube with blue suction catheter is 6F and white suction catheter is 12F. The black arrow is the contrast string.

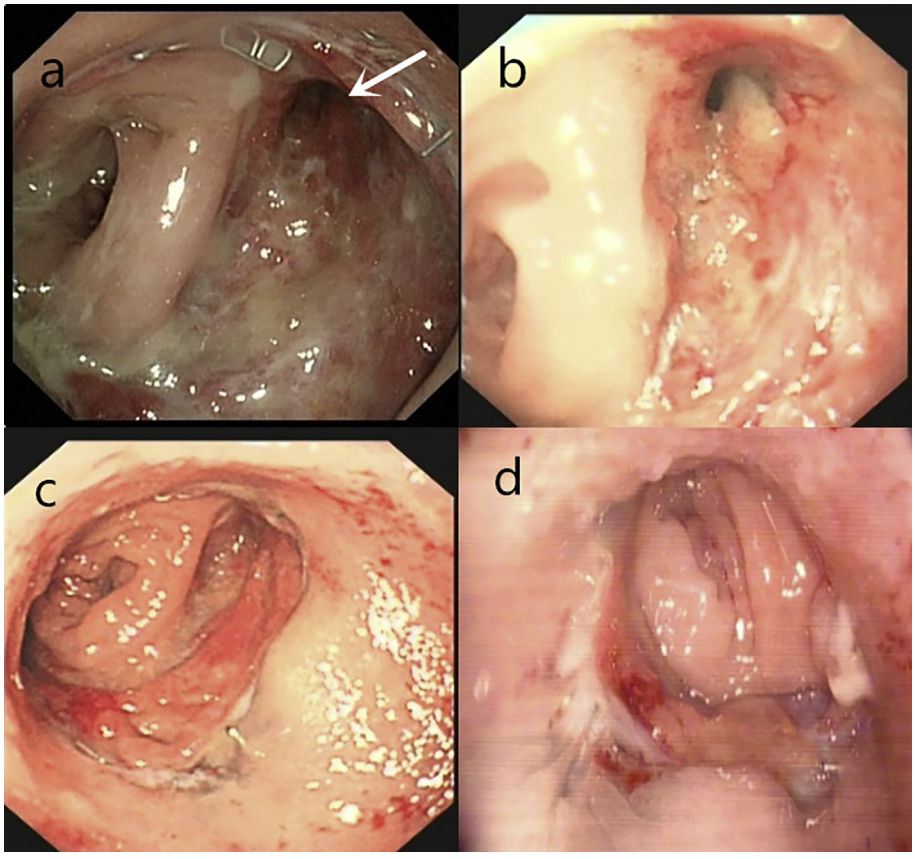

Figure 3 After 8 weeks of treatment, the anastomosis is fully healed, (a) 2 weeks after surgery, There's still abscesses and stapler nail can be seen, a sinus that communicates with the pelvic cavity (white arrows). (b, c) Abscess reduction and granulation tissue growth. (d) Sinus disappeared and anastomosis is healed.

Conflict of interest

The authors declare that they have no conflict of interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.asjsur.2019.07.006.

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