

Rectovaginal fistula development after NOSE in robotic low anterior resection for rectum adenocarcinoma

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To the Editor,

Robotic rectal surgery is currently a novel procedure for rectal cancers. Transanal NOSE is a novel technique to remove the specimen from the abdominal cavity through the anus instead of an additional incision following laparoscopic or robotic colorectal surgery.^[1] Colorectal minimally invasive surgery is associated with improved outcomes and fewer complications when compared to open surgery especially with reduced postoperative pain, reduced wound complications, earlier return of bowel function, and possibly shorter length of hospital stay.^[2,3] Natural orifice specimen extraction (NOSE) is the opening of a hollow viscus that already communicates with the outside world, such as the vagina or distal gastrointestinal tract, in order to remove a specimen. The premise of this technique is to reduce the trauma required to remove the specimen with the expectation that this may improve outcomes. Reduction in postoperative analgesic use, quicker return of bowel function, and shorter length of hospital stay have been observed in colorectal operations with NOSE compared to conventional specimen extraction. To date, there have been many documented cases in which either the colon, rectum, anus, or vagina has been used to remove both malignant and benign pathology from the cecum to the distal rectum.^[4] Despite the mentioned advantages of the technique, there are some potential pitfalls. Particularly, these issues include

infection associated with viscerotomy, breakdown in the closure of the organ used for specimen extraction, pain or functional consequences of disturbing an otherwise healthy organ for specimen extraction, and the potential for seeding unaffected organs in the extraction of malignancy.^[5] Here we will present the development of a rectovaginal fistula that we encountered in the early postoperative period besides the mentioned disadvantages of the NOSE in minimally invasive surgery.

Cases

Case 1– Sixty five years old, female patient. Preoperative diagnosis was rectum adenocarcinoma. After neoadjuvant treatment, the patient underwent a robotic low anterior resection (LAR). The specimen was removed from the vagina. Postoperative tumor histopathology was well differentiated adenocarcinoma. Number of lymph nodes examined was 15, number of metastatic lymph nodes was 1, all surgical margins were tumor negative and pathologic grade was pT2N1MX. Two diverticulae were observed on specimen. The patient was discharged on the fifth day after the operation uneventfully. She admitted with findings of rectovaginal fistula on the tenth day after discharge.

Case 2– Seventy three years old, female patient. Preoperative diagnosis was rectum adenocarcinoma. The patient underwent a robotic LAR. The specimen was removed



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from the vagina. Postoperative tumor histopathology was moderate differentiated adenocarcinoma. Number of lymph nodes examined was 17, number of metastatic lymph nodes was 1, all surgical margins were tumor negative and pathologic grade was pT2N1MX. Multiple diverticula were observed on specimen. The patient was discharged on the sixth day after the operation uneventfully. She admitted with findings of rectovaginal fistula on the fourteenth day after discharge.

In both cases, rectovaginal fistula development was observed after surgery. Tumor histopathology was similar. When considering reasons for the development of rectovaginal fistula, interestingly, the presence of diverticulosis in both specimens suggests that it may be the cause of morbidity. However, we did not encounter rectovaginal fistula in cases of minimally invasive LAR without NOSE technique in rectum tumor with diverticulosis. Undoubtedly, this article is not suitable for creating and evaluating a hypothesis. Because these two cases are the first minimally invasive NOSE cases performed by us. However this experience suggests the need to evaluate the NOSE technique in a larger series of patients in minimally invasive rectal surgery.

Disclosures

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References

1. Han FH, Hua LX, Zhao Z, Wu JH, Zhan WH. Transanal natural orifice specimen extraction for laparoscopic anterior resection in rectal cancer. *World J Gastroenterol* 2013;19:7751–7.
2. Kennedy GD, Heise C, Rajamanickam V, Harms B, Foley EF. Laparoscopy decreases postoperative complication rates after abdominal colectomy: results from the national surgical quality improvement program. *Ann Surg* 2009;249:596–601.
3. Colon Cancer Laparoscopic or Open Resection Study Group, Buunen M, Veldkamp R, Hop WC, Kuhry E, Jeekel J, Haglund E, et al. Survival after laparoscopic surgery versus open surgery for colon cancer: long-term outcome of a randomised clinical trial. *Lancet Oncol* 2009;10:44–52. [\[CrossRef\]](#)
4. Wolthuis AM, de Buck van Overstraeten A, D'Hoore A. Laparoscopic natural orifice specimen extraction-colectomy: a systematic review. *World J Gastroenterol* 2014;20:12981–92. [\[CrossRef\]](#)
5. Izquierdo KM, Unal E, Marks JH. Natural orifice specimen extraction in colorectal surgery: patient selection and perspectives. *Clin Exp Gastroenterol* 2018;11:265–79. [\[CrossRef\]](#)