Transanal Total Mesorectal Excision for Low Rectal Cancer

Chang Woo Kim, M.D.¹, Yoona Chung, M.D.¹, Sun Jin Park, M.D., Ph.D.², Kil Yeon Lee, M.D., Ph.D.², Suk-Hwan Lee, M.D., Ph.D.¹

Department of Surgery, ¹Kyung Hee University Hospital at Gangdong, Kyung Hee University School of Medicine, ²Kyung Hee Medical Center, Kyung Hee University School of Medicine, Seoul, Korea

A 70-year-old female patient was diagnosed with low rectal adenocarcinoma (cT3N2) based on the initial CT and MRI. The patient underwent neoadjuvant chemoradiotherapy consisting of short course radiotherapy with 5-fluorouracil (5-FU) and leucovorin (LV) chemotherapy. Three additional cycles of simplified infusional 5-FU/LV were given every 2 weeks to the patient during the resting period (8 weeks) before surgery. For transanal TME, a purse-string suture of the distal rectum was performed just above the dentate line. Transanal circumferential dissection including the mesorectum was performed from the dentate line until the peritoneal reflection. Thereafter, laparoscopic dissection was conducted using the medial to lateral approach and the inferior mesenteric artery was ligated at the pedicle. Lateral detachment and splenic flexure mobilization were completed. After full mobilization of the distal transverse colon and rectum, the specimen was retrieved through the anus and resected. Colo-anal anastomosis was performed by the hand-sewn method. A closed suction drain was inserted into the pelvis. We also demonstrate our procedure for transanal TME using a short video clip.

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Corresponding author

Suk-Hwan Lee

Department of Surgery, Kyung Hee University Hospital at Gangdong, Kyung Hee University School of Medicine, 892 Dongnam-ro, Gangdong-gu, Seoul 05278, Korea
Tel: +82-2-440-6295
Fax: +82-2-440-6073
E-mail: leeshdr@khu.ac.kr

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INTRODUCTION

Laparoscopic resection for low rectal cancer showed a lower rate of positive circumferential margin (CRM) compared with open resection in COLOR II trial.¹ It might be due to a better view of laparoscopy. However, total mesorectal excision (TME) for mid or low rectal cancer remains technically demanding and challenging under complicated conditions which are related with positive CRM or local recurrence even in the era of minimally invasive surgery. Transanal TME has been introduced as a novel option for mid or low rectal cancer. A few surgeons showed acceptable results of transanal TME

for low rectal cancer compared with conventional abdominal approach.²⁻⁸ In addition, several studies comparing transanal TME with laparoscopic TME for mid and low rectal cancer are on-going.⁹ We demonstrate our procedure for transanal TME by using a short video clip.

PROCEDURE

A 70-year-old female patient was diagnosed with rectal adenocarcinoma. The location of the tumor was 2 cm from the anal verge and the clinical stage was T3N2 based on the initial CT and MRI. The patient underwent neoadjuvant chemora-

diotherapy: short course radiotherapy (5×5 Gy) with 5-fluorouracil (5-FU) and leucovorin (LV) chemotherapy. Additional 3 cycles of simplified infusional 5-FU/LV were given every 2 weeks to the patient during the resting period before the surgery (i.e. consolidation chemotherapy). After 8 weeks from the last radiotherapy, radical surgery was performed.

Surgery was composed of two parts: transanal total mesorectal excision and transabdominal dissection. After a purse-string suture of distal rectum just above the dentate line, vagina was identified to confirm the exact surgical plane. Transanal circumferential dissection including the mesorectum was performed from the dentate line until the peritoneal reflection, which can be determined when intraperitoneal organs are visible. Thereafter, transabdominal dissection was performed using laparoscopy. A medial to lateral approach starting at the aortic bifurcation was done and the inferior mesenteric artery was ligated at the pedicle. Lateral detachment and splenic flexure mobilization were completed. After full mobilization of the distal transverse colon and rectum, the specimen was retrieved through the anus and resected. Coloanal anastomosis was performed by hand-sewn method. A closed suction drain was inserted into the pelvis.

The patient recovered without any complications and was discharged on the postoperative day 8. Final pathology revealed as ypT3N1. She received adjuvant chemotherapy with FL and has been without any local or distant recurrence for the past 2 years.

DISCUSSION

Transanal TME was performed safely for the patient with low rectal cancer following neoadjuvant chemoradiotherapy. Recent studies showed reasonable data of transanal TME comparable to laparoscopic TME, in terms of postoperative complications and TME quality.^{4,10,11} Some authors suggested that transanal TME provided a better view in the deep pelvis because the surgeon's view and the plane of dissection were in the same axis. During conventional laparoscopic rectal transection, sometimes it is difficult to achieve a safe distal margin. However, transanal TME might improve quality of dissection and clear distal resection margin. It should be proven by further studies.

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