

AN ALTERNATIVE TECHNIQUE TO ACHIEVE MESORECTAL EXCISION IN UPPER RECTAL CANCER IN A NARROW PELVIC CAVITY

Kiril Kirov

Specialized hospital of oncology, Varna

ABSTRACT

PURPOSE: Appropriate partial mesorectal excision (PME) is extremely important for prevention of local recurrence in rectal cancer. However, it is not always easy to conduct PME in the narrow pelvic cavity. We used a new surgical technique that involves a rectal transection followed by PME. **Material and Methods:** After rectal mobilization in the layer targeted for total mesorectal excision, only the rectal wall was bluntly dissected at an appropriate distance from the tumor. Initial transection of the rectum draws the rectum toward the anal side so that the mesorectum can be excised in a good visual field. Excision of the mesorectum was easy, and it could be resected in a short time.

RESULTS: This technique was conducted on twenty patients with upper rectal cancer and on eight patients with rectosigmoid cancer. Separation of the rectal wall was comparatively easy. The average distance from the rectal stump to the distal mesorectum in the freshly resected specimen was 15 mm, indicating satisfactory PME.

CONCLUSION: This easily performed method is a promising procedure for achieving sufficient PME in upper rectal cancer.

Key words: *rectal cancer, tumor-specific mesorectal excision, rectal wall dissection*

INTRODUCTION

Sufficient excision of the mesorectum is extremely important in preventing local recurrence for upper rectal cancer (1–3). Conventionally, the mesorectum is treated first, and then the rectum is transected. Sometimes, it is not always easy to accomplish successful PME in the narrow pelvic cavity. We used a new surgical technique to achieve sufficient mesorectal excision for upper rectal cancer.

MATERIAL AND METHODS

PME using this technique was conducted on twenty patients with upper rectal cancer and on eight patients with rectosigmoid cancer. There were 16 men and 12 women with an average age of 68 years. Separation of the rectal wall was comparatively easy, and we had no incidence of wall injury.

After mobilization of the sigmoid colon and ligation of inferior mesenteric vessels, we dissected the mesorectum along the layer of the planned total mesorectal excision. Rectal mobilization was carried out by sharp dissection under direct vision. In the target layer for total mesorectal excision, the visceral fascia was kept intact during the rectal dissection. At an appropriate distance of 4–5 cm from the tumor, the rectal wall dissection was begun from the right side to resect several vessels entering the rectal wall. After the left side vessels of the rectum were resected successively, blunt dissection of the posterior part of

Address for correspondence:

Kiril Kirov

Oncology Hospital Varna "M. Markov"

Tzar Osvoboditel 100, 9000 Varna

e-mail: kirovkg@yahoo.com

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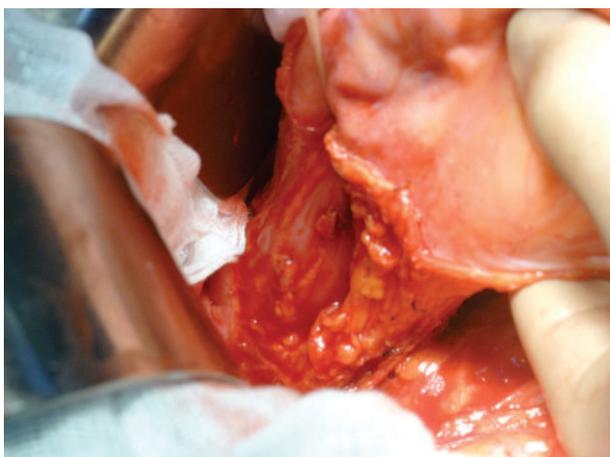


Fig. 1. Dissected rectal tube from the mesorectum

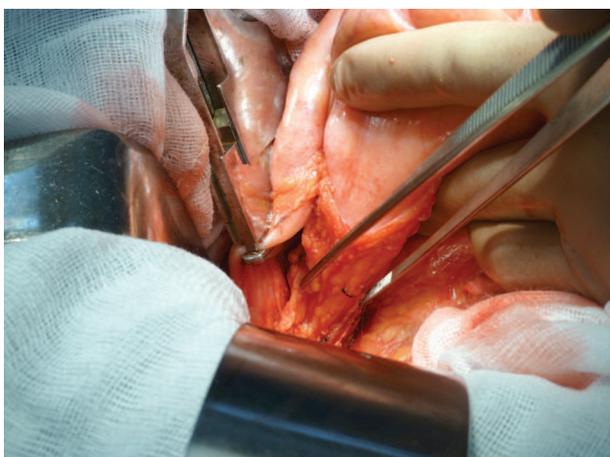


Fig. 2. Linear Stapler is inserted to close and cut the rectum

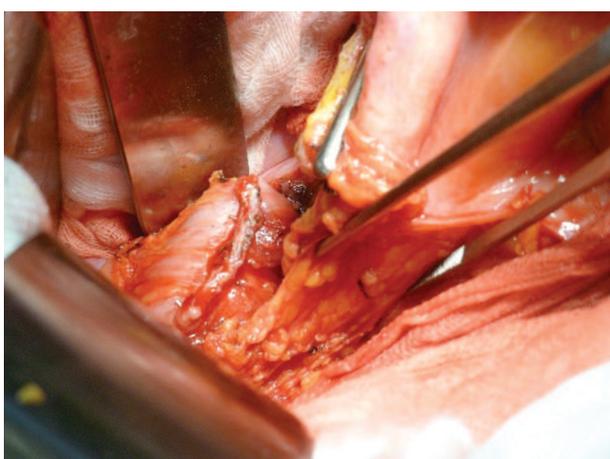


Fig. 3. The distal rectal stump (arrows) is drawn toward the anal side. The mesorectum (forceps) is confirmed with a good visual field

the rectum, where vessels were rarely observed, was carefully performed (Fig. 1). Only the rectal tube was initially dissected all around about 2–3 cm from the mesorectum to create enough space to insert a stapler instrument (Fig. 2). Since the rectal tube was pulled toward the cranial side, the rectal stump (Fig. 3) was drawn towards the anal side just after cutting off the rectum. Then, it was possible to identify the mesorectum with a good visual field where the rectum was not attached.

Excision of the mesorectum was easy, and it could be resected in a short period of time. Reconstruction was conducted using double-stapling techniques.

RESULTS

Mean blood loss was 220 ml, and mean operating time was 2 h and 25 min. No significant differences were observed compared with the 77 cases of upper rectal cancer performed by the conventional technique during the past 3 years (mean blood loss: 190 ml, mean operating time: 2h and 15 min). No patient required covering stoma, and postoperative anastomotic failure did not occur. The average distance from the rectal stump to the distal mesorectum in the freshly resected specimen was 15 mm (range 10–20 mm), showing satisfactory PME.

DISCUSSION

This technique is a new procedure involving a rectal approach followed by PME to achieve sufficient mesorectal excision for upper rectal cancer. The novel aspect of this technique is the resection of the several vessels entering the bilateral rectal wall as a first step. After that, blunt dissection of the rectum from the mesorectum is easy to perform because of the avascular area lying just behind the rectum.

Advantages of this technique include: (1) separating the rectum in advance allows rectal transection at the targeted line; (2) the mesorectal excision is made easy and secure by a good visual field provided by the rectal transection; (3) there is more chance of transecting the rectum successfully of the linear stapler, because the rectal wall has already been separated. The resected specimen (Fig. 4) also shows that the mesorectal excision is more sufficient by this method than when done in a conventional way (4). When the conventional method is performed, after transect-

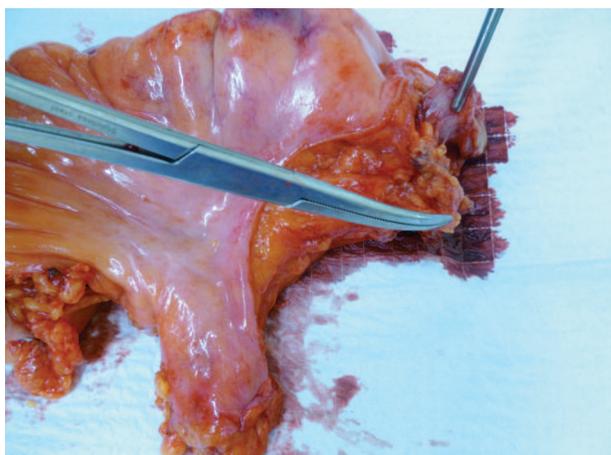


Fig. 4. The specimen shows satisfactory mesorectal excision

ing the rectum, a rectal stump sometimes slips into mesorectal fat. By this method, however, because the mesorectum is sufficiently resected, a rectal stump can always be identified visually (Fig. 3), and can be easily maneuvered. In the conventional procedure, the mesorectum is treated first and the rectum second; this approach makes it likely that PME will be resected obliquely to the anal side, introducing unnecessary and greater-than-expected rectal transection. To reduce the local recurrence rate in rectal cancer, appropriate mesorectal excision is required, corresponding to the localization or T-stage of the tumor (4,5,6). We would like to emphasize that the primary advantage of our new method is that ensured tumor-specific mesorectal excision can be performed easily in a good visual field.

CONCLUSION

This easily performed method is a promising procedure for achieving sufficient PME in upper rectal cancer.

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