Letter to the Editor

Oncological outcomes of robotic-assisted laparoscopic lateral lymph node dissection for rectal cancer

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We appreciate the opportunity to reply to the editorial by Dr. Kanemitsu (1). In the editorial, Dr. Kanemitsu underlined the incidence of lateral lymph node metastasis in patients with T3/T4 low rectal cancer and the difference in the treatment strategy for lateral lymph node dissection (LLD) between the West and East, particularly in Japan.

Although LLD remains technically demanding, a randomized controlled trial comparing open total mesorectal excision with and without LLD for clinical stage II/III low rectal cancer showed that postoperative complications were comparable between the two groups (2). Yamaguchi *et al.* (3) reported the short-term and oncological outcomes of laparoscopic versus open LLD (OLLD) for stage II/III low rectal cancer in a multicenter retrospective cohort study. Laparoscopic LLD was associated with less blood loss, comparable complication rates, and short-term oncological outcomes (except longer operative times) as compared to OLLD. In terms of robotic-assisted laparoscopic surgery, a few retrospective case series have reported that robotic-assisted laparoscopic LLD (RALLD) was safe and feasible (4-7). Yamaguchi *et al.* (8) reported the short-term outcomes of RALLD by comparing to those of OLLD. The operation time was significantly longer and blood loss was significantly lesser in the RALLD group than those in the OLLD group. The rates of wound infection, small bowel obstruction, anastomotic leakage, and urinary retention were significantly lower in the RALLD group.

In the current study, we demonstrated that the rate of positive resection margin tended to be lower and the local relapse-free survival rate was significantly higher in the RALLD group than in the OLLD group using exact matching (9). We would like to respond to the comments raised by Dr. Kanemitsu in the editorial (1). In our study, to reduce the covariate imbalance between the groups, one-to-one exact matching of patients in the RALLD group with those in the OLLD group was performed according to preoperative factors, such as clinical T staging, clinical N staging, and neoadjuvant chemoradiotherapy. Therefore, the patients were not matched for postoperative factors, such as the actual year of treatment, tumor size, histological type, the number of lateral lymph node metastases, and the diameter of enlarged lateral lymph nodes. However, these factors might influence the survival as Dr. Kanemitsu pointed out. Moreover, the number of patients who underwent RALLD was only 83. If the number of patients increases, it could be possible to match the preoperative as well as the postoperative factors.

In our study, only one patient had a local recurrence in the RALLD group. We also reported the oncological outcomes of the 204 consecutive patients who underwent robotic-assisted laparoscopic surgery for rectal cancer between 2011 and 2014 (10). One patient with stage III developed local recurrence after total mesorectal excision without neoadjuvant chemoradiotherapy or LLD. After a longer follow-up, there is some possibility that the number of local recurrences will increase, however, our results were

good in terms of mid-term oncological outcomes. Our study was a retrospective comparative one, and a prospective comparative study evaluating the short- and long-term oncological outcomes among patients undergoing RALLD, conventional laparoscopic LLD, and OLLD could help in reaching the exact conclusion.

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