

Laparoscopic Options for Surgical Treatment of Rectal Cancer

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Colorectal cancer is the third most common cancer globally with an annual incidence of 1.4 million and 694,000 deaths [1,2]. Almost one third of all colorectal tumors are localized in the rectum [2,3]. Proctectomy constitutes the mainstay of treatment for rectal cancer [4]. However, the main concern with treatment adequacy is local recurrence, distant metastasis, and disease-free survival [5,6].

Adherence to the principles of total mesorectal excision (TME) has resulted in substantial improvement of outcomes after surgical treatment of rectal cancer [7,8]. This includes complete removal of mesorectum containing both the tumor and adjacent lymph nodes to produce a clear circumferential resection margin (CRM) or distal resection margin (DRM), 4 cm distal to the tumor [9]. The quality of such a TME is paramount in minimizing local recurrence and achieving a long-term disease-free survival [7,9].

Surgical resection for rectal cancer is reserved for curable cases [10]. The treatment is unique in that the options may vary according to the location and size of the tumor [11-13]; neoadjuvant therapy constitutes a major step prior to the surgery [10,14]; and patient quality of life (QOL) is a crucial issue after resection, given the anatomical function of the anus [15].

Although patient selection for the curative surgery initiates with tumor staging, opting for the right surgical approach is still controversial [16]. Similar to the colon cancer, adoption of minimally invasive approach to the surgical resection of rectal tumors has been slow [17]. This is mainly due to the uncertainty of achieving an adequate resection margin with laparoscopic tools without tactile feedback in a confined and deep space such as the pelvis. With residual disease left behind, subsequent oncological complications and disease recurrence will occur [16]. Several randomized trials comparing open and laparoscopic resection of rectal cancer have shown superior results with laparoscopy in terms of short-term outcomes [18-20]. This means faster recovery, shortened length of hospital stay, and reduced complication rates with laparoscopic TME. However, due to the insufficient data on 5-year recurrence rate and survival rates, the non-inferiority of laparoscopic resection compared to the open surgery has not been established yet [21].

The major concern with published clinical trials on laparoscopic surgery of rectal cancer is that they have enrolled patients who underwent resection by colorectal surgeons with various level of experience in laparoscopic TME [18,19,22]. With that said, it is not the technique used, but rather the surgeon's experience, which results in disadvantageous oncological outcome after laparoscopic resection compared with traditional open surgery.

Surgeons should offer the laparoscopic option to their rectal cancer patients, only when and if, he/she is confident about reproducing an optimal oncological safety. In other words, if colorectal surgeons are interested in the benefits conferred by laparoscopy, they should first improve their laparoscopic skills for low rectal tumors and share the maximal level of honesty with their patients. Nevertheless, this individualized approach should be validated a constant and long-term assessment of outcomes for local recurrence or disease-free survival.

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