Short-term oncologic outcomes and technical feasibility of reduced-port totally laparoscopic gastrectomy for the treatment of gastric cancer

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Aim/Background: Because of the increased survival rate of gastric cancer patients due to early detection using improved diagnostic tools, interest in the quality of life postoperatively with respect to reduced scarring has increased. This study aimed to evaluate the short-term oncologic outcome and technical feasibility of reduced-port totally laparoscopic gastrectomy (RepTLG) for the treatment of gastric cancer.

Methods: In total, 170 patients who underwent RepTLG (n = 97) or conventional totally laparoscopic gastrectomy (cTLG) (n = 73) were enrolled. Clinicopathological features, operative details, and short-term postoperative outcomes were analyzed retrospectively and compared between groups.

Results: There were no significant differences between groups with regard to the extent of resection, lymph node dissection or estimated blood loss. Operating time and duration of flatus were shorter in the RepTLG group compared to the cTLG group (187.5 ± 67.7 min vs. 219.6 ± 43.3 min, p < 0.001, 2.7 ± 0.6 days vs. 2.9 ± 0.8 days, p = 0.016), although patients in the RepTLG group were older than those in the cTLG group (63.5 ± 11.1 vs. 59.3 ± 10.6, respectively; p = 0.014). The RepTLG group was divided into two subgroups: 3-port and 4-port groups. The body mass index (BMI) of the 3-port group was lower than the 4-port group (22.3 ± 2.1 vs. 24.7 ± 3.7, respectively; p = 0.039), and the operating time was shorter in the 3-port group compared to the 4-port group (128.0 ± 37.0 min vs. 194.3 ± 67.2 min, respectively; p = 0.003).

Conclusions: RepTLG has comparable outcomes to cTLG for the treatment of gastric cancer, and RepTLG would be a preferable option without any special instruments if performed by an expert surgeon. In addition, 3-port RepTLG could be useful for patients who have a low BMI. Based on the improvement in surgeon skills, total or proximal RepTLG is possible in gastric cancer surgery.

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