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Single port vs. multiport laparoscopic surgery for colon cancer: multicenter prospective randomized trial in Korea (SIMPLE trial)

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Score	Reviewer	Reject Comment	Overall Comment
6	Mike Liang		RCT. deserves higher recognition.
5	Jennifer Paruch		Multi-center trial
5	Brian Nguyen		well-designed study on an interesting topic.
5	Ruchir Puri		

INTRODUCTION: Since introduction of single port laparoscopic surgery for colon cancer, many studies had been reported. However randomized controlled trial is very few and only small cases were enrolled, so high-level evidence showing acceptable short-term and long-term outcomes of single port laparoscopic surgery for colon cancer is scarce. The aim of this trial is to identify the short-term perioperative outcomes of single port laparoscopic surgery (SPLS) compared with multiport laparoscopic surgery (MPLS) in colon cancer.

METHODS AND PROCEDURES: The Comparative study of single port vs. multiport laparoscopic surgery for colon cancer (SIMPLE) trial is multicenter prospective randomized trial done between July 2011 to June 2017 and 7 university hospitals participated. The patients who need radical surgery for colon cancer were enrolled and randomized by web-based e-CRF just before the surgery. In this study, transverse and descending colon cancer, stage IV colon cancer and T4b cancer were excluded. Primary end point is 30-day postoperative complication and secondary end point is 3-years DFS & OS, QoL and satisfaction rate of given surgery. This trial was registered in ClinicalTrials.gov and number is NCT01203969.

RESULTS: We randomized 388 patients and assigned 194 patients in each group. 15 cases in SPLS, 14 cases in MPLS were dropped, so 179 cases in SPLS and 180 cases in MPLS were analyzed. There were no statistical differences in basic characteristics including age, sex, BMI, tumor locations, ASA score and history of previous abdominal surgery. The operation time was 175.6 minutes in SPLS and 164.3 minutes in MPLS but showed no differences. Open conversion was 3 cases (1.7%) in SPLS and 0 cases in MPLS, showed no difference. Total incision length was significantly short in SPLS (4.6 cm vs. 7.2 cm, p=0.000) Postoperative recovery including first bowel movement, diet, postoperative pain score and length of hospital stay showed no differences. The postoperative complication was 15 cases (8.4%) in SPLS and 18 cases (10%) in MPLS, and showed no difference. Anastomosis leak was encountered in 2 cases in each group and showed no differences. No differences in pathologic outcomes including T and N stage, tumor size, number of harvested lymph node and proximal and distal resection margin were shown.

CONCLUSIONS: Our trial showed short-term outcomes of SPLS for colon cancer was acceptable compared to MPLS. Single port laparoscopic surgery can be a safe and technically feasible surgical option for colon cancer.