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Invited Commentary

Commentary on: "Systematic assessment of complications after robotic-assisted total versus distal gastrectomy for advanced gastric cancer: A retrospective propensity score-matched study using Clavien-Dindo classification"

A commentary on "Systematic assessment of complications after robotic-assisted total versus distal gastrectomy for advanced gastric cancer: A retrospective propensity score-matched study using Clavien-Dindo classification" (Int J Surg 2019; 71:140–8).

Although safe, the full potential of robotic-assisted gastrectomy (RAG) remains to be balanced against the high cost, the long operation time, and, in the field of surgical oncology, the lack of oncologic superiority to "classic" laparoscopic or open surgery. The real difference in costs varies across the globe and depends on the national insurance coverage in every country. Despite these differences RAG is still costlier. Some disadvantages of robotic surgery, such as long operation time, can be overcome with accumulation of surgeon's experience and technical improvements.

Although authors [4] did not compare their results with "classic" laparoscopic surgery, RAG results in less blood loss [1]. Significant differences in blood loss may not translate into clinical benefit. However, blood loss with laparoscopic surgery has a larger variability compared to RAG [2], meaning that RAG can result in a better uniformity of all the steps of the operation. Although laparoscopic operations are oncologically equivalent to RAG for treatment of early-stage gastric cancers, the situation could be different for advanced gastric cancers, being in favor of RAG. Laparoscopic D2 lymphadenectomies (and number of lymph nodes retrieved) are significantly less with laparoscopic compared to RAG [3]. This is due to the known drawbacks of laparoscopic surgery with a prolonged learning curve for complex procedures such as gastrectomy.

There are more and more studies on RAG, but the study by Wang et al. [4] is interesting for several reasons. First, it is one of the largest studies on the subject. Second, it is a single surgeon experience. Third, the limitations of this retrospective study were well described and explained. Such a large study can lead to strong conclusions. The authors claimed that the larger the tumor, the higher was the probability of total gastrectomy related to the location of the tumor. As in open or laparoscopic gastrectomy, robotic-assisted total gastrectomy (RATG) when compared to partial gastrectomy had a significantly longer operative time, greater intraoperative blood loss, larger number of retrieved lymph nodes, longer postoperative lengths of stay, and longer time to ambulation and first flatus. The improvements of all these parameters could be more pronounced with RAG compared to "classic" laparoscopic surgery. The importance of this study is the detailed analysis of postoperative complications (POC) which showed that even with the use of advanced technology, it is still an issue. The more extensive the operation (RATG compared to partial gastrectomy) the higher the incidence of complications. The most dreaded complication of anastomotic leakage was still present in 5% of patients in the RATG group. The mean length of stay in patients without complications was still high (11.2 days). It is interesting that the duration of operation was similar for distal and total gastrectomy and it was slightly more than 4 hours.

In conclusion, this is a large, although retrospective study on robotic surgery. Large prospective studies are required in the future for more definitive conclusions.

Provenance and peer review

Invited commentary, internally reviewed.

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