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An Invited Commentary on “Perioperative outcomes comparing laparoscopic with open repeat liver resection for post-hepatectomy recurrent liver cancer: a systematic review and meta-analysis” (Int J Surg 2020; Epub ahead of print)

Roberta Angelico, Carlo Gazia

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Repeat laparoscopic hepatectomy for recurrent tumors is safe and feasible

Authors:

Roberta Angelico[1], Carlo Gazia[1]

Affiliations:

[1]Department of Surgical Sciences, HPB and Transplant Unit, University of Rome Tor Vergata, Rome, Italy

ORCIDs:

Roberta Angelico (0000-0002-3439-7750); Carlo Gazia (0000-0002-3543-4170)

Corresponding author:

Roberta Angelico, MD, PhD, FEBS

Department of Surgery Science, HPB and Transplant Unit

University of Rome Tor Vergata

Viale Oxford 33

00133, Rome, Italy

Phone: 0620908294

Fax: 0620908294

Email: roberta.angelico@gmail.com

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Abbreviations:

LRH - Repeat laparoscopic hepatectomy

Key words:

Liver resection, liver tumor, laparoscopic hepatectomy, open hepatectomy

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Dear Editor,

We read with great interest the manuscript by Liang et al [1]. The authors presented a systematic review aiming to evaluate the potential benefits of repeat laparoscopic hepatectomy (LRH) in comparison with repeat open hepatectomy for recurrent liver cancer. Remarkably, the analysis of 767 patients who underwent repeat open or laparoscopic surgical liver resection for recurrent hepatocellular carcinoma, colorectal liver metastasis and cholangiocarcinoma showed that the laparoscopic approach has superior outcomes in feasibility and safety.

The lower incidence of intraoperative blood loss and major post-operative complications after LRH strongly suggest that the laparoscopic approach should be first attempted despite it might be technically challenging due to adhesions, collateral circulation and changes in anatomy. However, besides the undoubted benefits of repeat laparoscopy as the first surgical approach for patients' recovery [2], the conversion rate from laparoscopy to open procedures needs further analysis. In fact, it would offer clues to understand whether the conversion rate is affected by anatomical position of liver tumors, presence of adhesions from previous procedures, surgeon's technical skills or patients' comorbidities [3].

The heterogeneity of the considered population analyzed in the study relating to the type of tumors and underlying liver disease might lead to bias. In fact, the safety profile of the described surgical interventions, the survival rate, the cancer's position and its aggressiveness might differ. The authors found that LRH had a better R0 clearance than open approach, possibly explained by precise dissection due to high-resolution view offered by advanced optical technology and facilitation in separation of adhesions due to pneumoperitoneum. Since 40% of the available studies did not analyze the R0 clearance, the conclusions should be approached with caution, and further data are needed.

At long-term, the benefits of repeat laparoscopic liver resection are potentially more exacerbated in those patients who would require subsequent liver transplantation for tumor recurrence. In a liver transplantation setting, adhesions from previous hepatic open surgery increase intraoperative risks

of bleeding and other dangerous complications, leading to higher chances of compromising patient survival [4].

Of interest, laparoscopic surgery allows a shorter hospital stay, which potentially might provide significant economical savings, thus supporting its extensively use in the current era of spending review [5].

In conclusion, we would like to acknowledge the team for this fascinating and important study, since this study represents the largest systematic review and meta-analysis in comparing repeat laparoscopic and open hepatic surgery for recurrent liver cancer.

As LRH has only been studied retrospectively, randomized prospective clinical trials are needed to strengthen the validity of the already existing data. In future, we should aim not only to compare the feasibility and safety of repeat liver resection by laparoscopic or open technique, but also to provide recommendations for accurate selection of patients (i.e. underlying liver disease, remnant liver volume) who would highly benefit from repeat liver resection using the laparoscopic approach.

Roberta Angelico
Carlo Gazia
Department of Surgical Sciences, HPB and Transplant Unit, University of Rome Tor Vergata, Rome, Italy

All correspondences to: Roberta Angelico, MD, PhD, FEBS
Phone: 0620908294, Fax: 0620908294; Email: roberta.angelico@gmail.com

Provenance and peer review
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