AB102. Laparoscopic versus open liver resection for tumours in the posterosuperior segments: a systematic review and meta-analysis

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Background: To compare the outcomes of laparoscopic and open liver resection for tumours in the posterosuperior segments.

Methods: We performed a systematic review in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement standards. We conducted a search of electronic information sources to identify all studies comparing outcomes of laparoscopic and open liver resection for tumours in the posterosuperior segments. We used ROBINS-I tool to assess the risk of bias of the included studies. Fixed-effect or random-effects models were applied to calculate pooled outcome data.

Results: We identified 11 observational studies, enrolling a total of 1,023 patients. The included population in both groups were comparable in terms of baseline characteristics. Laparoscopic approach was associated with lower risks of total complications and major complications (Dindo-Clavien III or more). Laparoscopic approach was associated with longer operative time and shorter length of hospital stay compared with open approach. There was no difference between the two groups in terms of intraoperative bleeding, need for blood transfusion, R0 resection, postoperative mortality, and need for readmission. In terms of oncological outcomes, there was no difference between the groups in terms disease recurrence (OR: 1.58, 95% CI: 0.95–2.63, P=0.08), overall survival (OS) at maximum follow up (OR: 1.09, 95% CI: 0.66–1.81, P=0.73), 1-year OS (OR: 1.53, 95% CI: 0.48–4.92, P=0.47), 3-year OS (OR: 1.26, 95% CI: 0.67–2.37, P=0.48), 5-year OS (OR: 0.91, 95% CI: 0.41–1.99, P=0.80), disease-free survival (DFS) at maximum follow up (OR: 0.91, 95% CI: 0.65–1.27, P=0.56), 1-year DFS (OR: 1.04, 95% CI: 0.60–1.81, P=0.88), 3-year DFS (OR: 1.13, 95% CI: 0.75–1.69, P=0.57), and 5-year DFS (OR: 0.73, 95% CI: 0.44–1.24, P=0.25).

Conclusions: Compared with the open approach in liver resection for tumours in the posterosuperior segments, the laparoscopic approach seems to be associated with lower risk of postoperative morbidity and shorter length of hospital stay with comparable survival and oncological outcomes. The best available evidence is derived from observational studies with moderate quality; therefore, high quality randomised controlled trials with adequate statistical power are required to provide more robust basis for definite conclusions.

Keywords: Hepatobiliary; liver resection; laparoscopic; systematic review

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