

CLINICAL EFFECTIVENESS AND SAFETY OF LAPAROSCOPIC LIVER RESECTION VERSUS OPEN LIVER RESECTION FOR HEPATOCELLULAR CARCINOMA IN ELDERLY PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Dong Ah PARK¹, Seung Eun RYOO¹, Jung Eun PARK¹, Mi Young CHOI¹, Gi Hong CHOI^{*2}

¹Division Of Healthcare Technology Assessment Research, National Evidence-based Healthcare
Collaborating Agency, REPUBLIC OF KOREA

²Department Of Surgery, Yonsei University, REPUBLIC OF KOREA

Background : With the aging population, surgical treatment in elderly patients with hepatocellular carcinoma (HCC) is increasing. The difference in effectiveness between surgical treatments in elderly patients is unclear to date. This study aimed to compare effectiveness and safety of laparoscopic liver resection (LLR) compared with open liver resection (OLR) in elderly patients with HCC.

Methods : We searched Ovid-Medline, Ovid-EMBASE, Cochrane library, and 3 local medical databases through March 2021 to identify comparative studies on primary HCC in elderly patients (≥ 65 years). The outcomes were over-all survival, disease-free survival, 90-day mortality, 30-day mortality, in-hospital mortality, major post-operative complications, overall complications, post-operative liver failure and length of stay (LOS). Two independent reviewers extracted data from each study using a standardized form. The quality of the selected studies was assessed using Methodological index for non-randomized studies (MINORS).

Results : Five eligible comparative cohort studies representing 653 patients were identified. The two groups did not show statistical difference for overall survival and disease-free survival in 2 studies. 90-day mortality, 30-day mortality, in-hospital mortality (n=4 studies, OR 0.38, 95% CI 0.07-1.99, I²=11%; n=2 studies, OR 0.33, 95% CI 0.03-3.20, I²=NA; n=1 study, OR 0.19, 95% CI 0.02-1.69, I²= NA, respectively) were not significant different between two groups. Overall and major post-operative complications (n=5 studies, OR 0.43, 95% CI 0.26-0.70, I²=27%; n=5 studies, OR 0.36, 95% CI 0.17-0.77, I²=14%; n=2 studies, OR 0.41, 95% CI 0.19-0.91, I²=0%, respectively); the incidence of liver failure were significantly fewer in LLR than in OLR. The LOS was consistently reported to be shorter in the LLR with 5 studies.

Conclusions : LLR may be a generally safer and better option than open surgery in elderly patients with HCC. Laparoscopic LR is associated with significantly fewer complications, major complications, post-operative liver failure; and shorter LOS than OLR. Further prospective studies with long term follow-up in elderly patients are needed.

Corresponding Author : Gi Hong CHOI (CHOIGH@yuhs.ac)