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Comparative Outcomes Of Robotic Versus Laparoscopic Extended Cholecystectomy In Gallbladder Cancer: A Clinical And Surgical Perspective

WAN JOON KIM*¹, SAE BYEOL CHOI¹, SOO YUN LIM¹, SEONG WOOK HAN¹, WAN BAE KIM¹

¹Hepatobiliary And Pancreatic Surgery, 고려대학교 구로병원, REPUBLIC OF KOREA

Background : Gallbladder cancer (GBC) is a malignancy with poor prognosis, necessitating radical resection for optimal outcomes. This study aims to compare the clinical and surgical outcomes of robotic versus laparoscopic extended cholecystectomy (REC vs. LEC), highlighting the advancements in robotic surgery.

Methods : A retrospective observational study was conducted on 48 patients who underwent either REC or LEC for suspected primary GBC between May 2018 and July 2023. Patients were selected based on specific inclusion criteria, and propensity score matching (PSM) was used to reduce bias. Comparative analyses were performed on perioperative outcomes, histopathological results, and disease-free survival (DFS).

Results : The study included 16 patients in the REC group and 32 in the LEC group. The REC group experienced a significantly shorter hospital stay compared to the LEC group (6.0 vs. 9.4 days, $p=0.012$). No significant differences were found in operative time, overall complication rates, or DFS between the groups. However, the REC group had a higher mean lymph node yield (7.1 vs. 5.1, $p=0.040$). Key risk factors associated with DFS included age over 70, nodal staging, lymphovascular invasion, and adjuvant chemotherapy.

Conclusions : REC offers potential advantages in postoperative recovery and thorough lymphadenectomy, but does not significantly differ from LEC in terms of operative time, complication rates, or DFS. The findings support the feasibility of robotic surgery in GBC management, though further studies are needed to assess its long-term oncological impact.

Corresponding Author : **WAN JOON KIM** (wjkim0116@korea.ac.kr)