Topic : Biliary & Pancreas

SAFE AND FEASIBILITY OF ROBOTIC SINGLE-PORT (SP) CHOLECYSTECTOMY BY COMPARING CONVENTIONAL LAPAROSCOPIC CHOLECYSTECTOMY: PROPENSITY SCORE MATCHING ANALYSIS

Yoo Jin CHOI¹, Su Min JEON¹, Sehyeon YU¹, Hye-Sung JO¹, Dong-Sik KIM¹, Young-Dong YU¹

¹ Department of HBP Surgery, Korea University Anam Hospital, Republic of Korea

Background : The advancement of robotic surgical systems has driven significant progress in minimally invasive surgery of hepatobiliary surgery. Moreover, recent developments in Single Port (SP) robotic systems, which enable better minimally invasive approaches, have provided substantial benefits and advantages for single-incision cholecystectomy. This study aimed to evaluate the safety and feasibility of SP robotic cholecystectomy (RC) compared to conventional laparoscopic cholecystectomy (LC).

Methods : This retrospective cohort study used propensity score-matching (PSM) to adjust potential confounding factors. Between November 2020 and April 2023, a total of 1,425 patients underwent either SP Robotic cholecystectomy or Laparoscopic cholecystectomy at Korea University Anam Hospital. After matching, 433 patients were included in each group for comparative analysis of perioperative outcomes.

Results : The LC group was older (mean age 49.84 vs. 47.07, p = 0.001) and had more comorbidities (DM: 14.09% vs. 7.85%, HTN: 29.79% vs. 17.78%, p \leq 0.001). However, there was no significant difference in BMI. Operative time was shorter in the RC group (50.87 vs. 40.80 minutes, p \leq 0.001). There were no significant differences in postoperative complications, especially incisional hernia, postoperative pain scores, and postoperative hospital days.

Conclusions : SP robotic cholecystectomy demonstrated advantages in feasibility by reducing operative time, while maintaining safety, with no significant differences in incisional hernia, complications, or POD 1 pain scores. Our center has increasingly adopted SP robotic cholecystectomy, and further studies are needed to explore its outcomes and potential.

Corresponding Author : Young-Dong YU (hust1351@naver.com)