

Robotic vs. Laparoscopic Redo Ileocolic Resection for Recurrent Crohn's Disease

Ruiqing Liu¹, MD; Luca Stocchi¹, MD, MBA; Richard Sassun², MD; Kevin T Behm², MD; David W Larson², MD, MBA; Anne-Lise D D'Angelo²; Kellie T Mathis²; Dorin T Colibaseanu¹; Michelle F DeLeon¹; Amit Merchea¹; Sherief F Shawki²;

¹Division of Colon and Rectal Surgery, Mayo Clinic Florida, USA; ²Division of Colon and Rectal Surgery, Mayo Clinic Rochester, USA

BACKGROUND

Robotic surgery is increasingly utilized for primary ileocolic Crohn’s disease (CD), but its role in recurrent CD is less established. This study aimed to evaluate the feasibility and outcomes of robotic redo ileocolic resection (ICR).

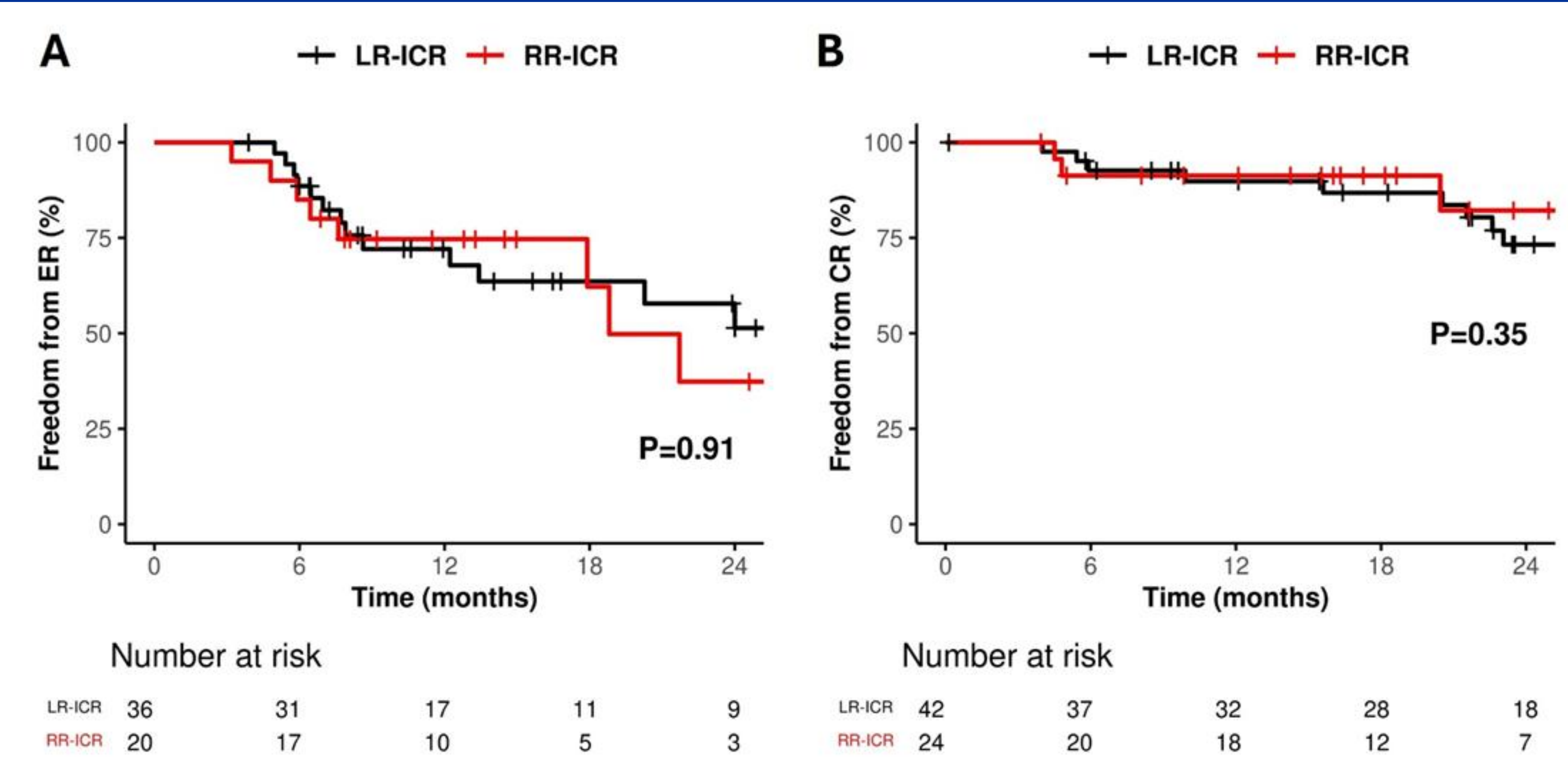
METHODS

We retrospectively reviewed adult patients with recurrent CD who underwent either robotic (RR-ICR) or laparoscopic redo (LR-ICR) ICR at our institution between January 2020 and November 2024. Perioperative variables, conversion rate, short- and long-term postoperative outcomes were compared.

RESULTS

Twenty-four patients (36.4%) underwent RR-ICR and 42 (63.6%) LR-ICR. The intervals between primary and recurrent ICR (219 mo. for RR-ICR vs 247 mo. for LR-ICR, p = 0.4) and laparoscopic primary ICR rates (5 [20.8%] for RR-ICR vs 11 [26.2%] for LR-ICR, p = 0.63) were similar. RR-ICR was associated with a significantly lower conversion rate (4.2% vs 23.8%, p = 0.046) and higher rate of intracorporeal anastomosis (70.8% vs 7.1%, p < 0.001).

Figure. Comparative survival without ER (A) and CR (B) for laparoscopic redo ileocolonic resection (LR-ICR) vs. robotic redo ileocolonic resection (RR-ICR)



RESULTS (cont'd)

RR-ICR operative times were longer (311 vs 181 min, p < 0.001). Postoperative morbidity (33.3% vs. 31%, p = 1), length of postoperative stay (3.6 ± 1.8 vs. 3.6 ± 2.2, days, p = 0.69), and 30-day readmission (both 16.7%, p = 1) were similar between groups. Postoperative endoscopy was performed in 56 patients, with a mean follow-up of 11.9 (7.2 - 20.9) months. The cumulative 12 and 24-month endoscopic recurrence (ER)-free rates based on 56 patients were 72.1% and 51.4% in the RR-ICR group and 74.7% and 37.3% in the LR-ICR group, respectively, with no significant differences in time-to-event analysis for ER (p = 0.91) or clinical recurrence rates (p = 0.35). On multivariable analysis, only male gender was independently associated with increased risk of ER (Hazard ratio (HR): 2.54, p = 0.028).

CONCLUSIONS

Robotic redo ileocolic resection is a safe and feasible alternative which could offer some advantages when compared with laparoscopic surgery in patients with recurrent CD. Further, larger studies are needed to confirm such advantages.