

Clinical and Cost Analysis of Robotic vs. Laparoscopic Cholecystectomy Stratified by Tokyo Guidelines Severity

Introduction

- Acute cholecystitis severity is classified using the Tokyo Guidelines
- Both robotic (RC) and laparoscopic (LC) cholecystectomy are widely used approaches
- We evaluated the distribution of RC and LC across Tokyo Guidelines severity grades

Results

- 171 cases included (RC = 95, LC = 76)
- Significant differences observed for Grade I ($p = 0.042$) and Grade II ($p = 0.009$)
- No significant difference for Grade III ($p = 0.302$)
- RC had no complications; LC had three complications

Methods

- **Retrospective review** of patients undergoing cholecystectomy at Kings County Hospital from **December 2019 to October 2022**
- 171 cases were included: robot-assisted cholecystectomy (RC) $n = 95$ and laparoscopic cholecystectomy (LC) $n = 76$
- Cholecystitis severity classified using the 2018 Tokyo Guidelines (Grade I-III)
- Distribution of surgical approach across severity grades compared using Fisher exact test

Discussion

- Surgical approach differed by severity grade
- RC was more commonly utilized in Grade I disease, while LC was more common in Grade II disease
- No difference observed in Grade III disease

Take Home Message

Robotic cholecystectomy demonstrated differing utilization patterns across Tokyo Guidelines severity grades with favorable outcomes.

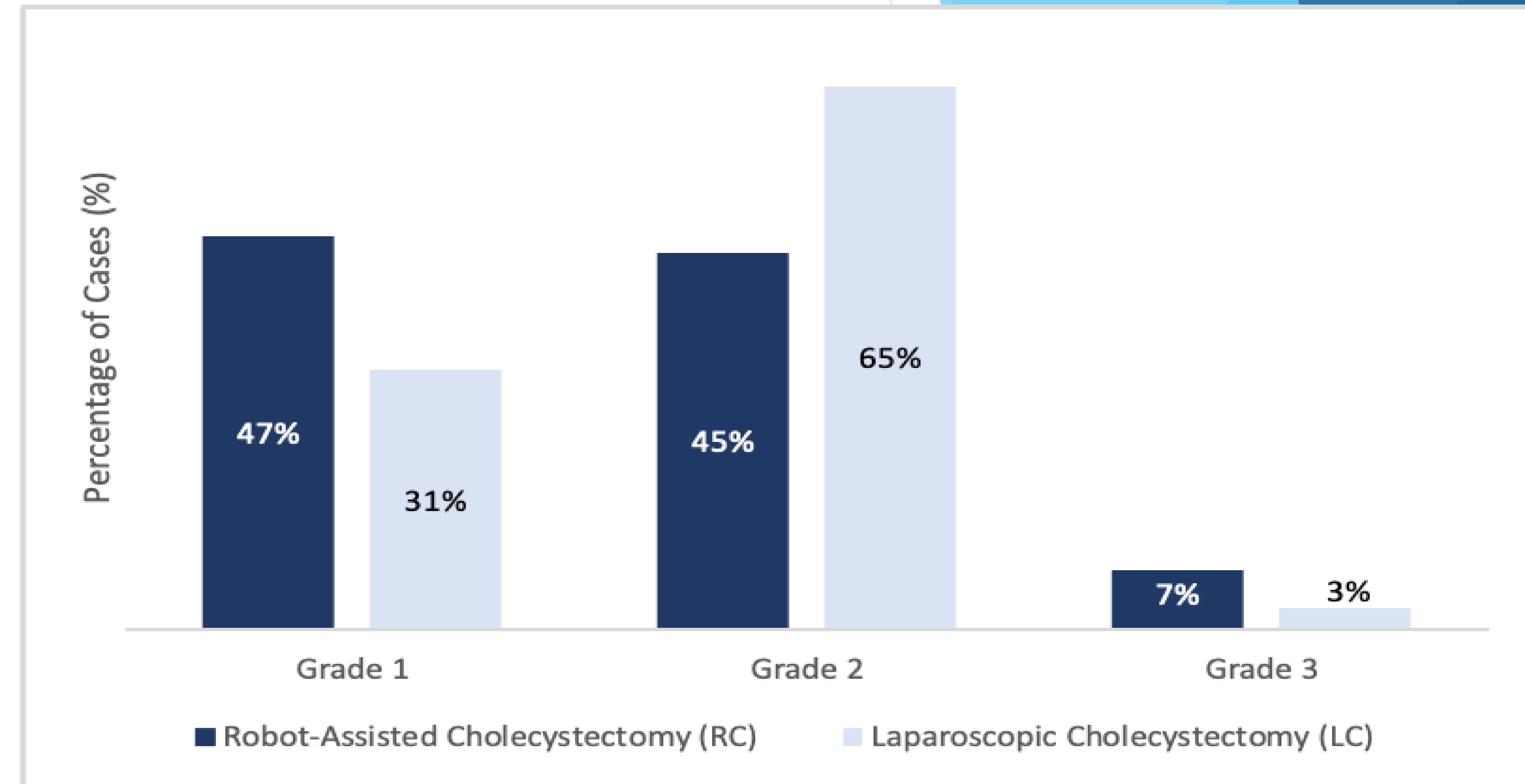


Figure 1. Distribution of robotic and laparoscopic cholecystectomy by Tokyo Guidelines severity grade (Grades I-III). Significant differences were observed for Grade I ($p = 0.042$) and Grade II ($p = 0.009$), but not Grade III.

Conclusion

- RC utilization differed significantly in Grade I and II disease
- No difference observed in Grade III severity
- RC demonstrated no complications in this cohort
- **Ongoing Analysis:** operative time, length of stay, cost comparison



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