Comparative Outcomes of Robotic vs. Laparoscopic Cholecystectomy: A Retrospective Analysis

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BACKGROUND

- Laparoscopic cholecystectomy (LC) is considered the gold standard for patients with gallstone disease.
- Robotic cholecystectomy (RC) is a newer technique allowing surgeons to have improved visualization and precision.

AIM

The purpose of our study is to compare surgical outcomes between LC and RC.

METHODS

Retrospective analysis at a single academic institution of 150 patients who underwent a RC (n=48) or LC (n=102). Perioperative outcomes were assessed.

RESULTS

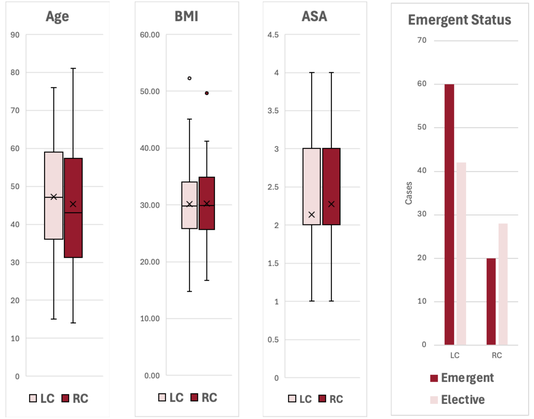


Figure 1. Box and whisker plots of age, BMI, and ASA distribution in LC and RC groups. Bar chart of emergent vs. elective rates

- No significant difference in age (P=0.507), BMI (P=0.906), ASA classification (P=0.253), or resident involvement (P=0.335) between the LC and RC groups.
- RC group had a higher rate of elective procedures compared to the LC (P=0.049).
- There was no significant difference in rates of post operative complications (P=0.164) or length of stay (P=0.162).
- RC had no open conversions while LC had 2.
- The RC had significantly lower OR times (P < 0.00001), times from open incision to closing (P < .00001), and less estimated blood loss (P=0.00016) compared to the LC group.
- In emergent LC and RC procedures there were significantly shorter times from open incision to closing (P=0.004) and OR times (P=0.004) in the RC groups.

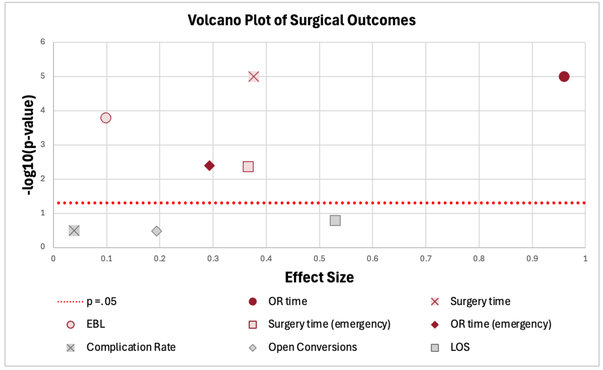


Figure 2. Volcano plot showing effect size a p value of surgical outcomes. Red points indicate significant value

CONCLUSIONS

- RC is safe and non inferior compared to standard LC in benign gall stone disease.
- RC had both shorter procedure and OR times compared to LC regardless of emergent status.

FUTURE DIRECTIONS

- Randomized controlled trial comparing RC to LC.
- Cost analysis of RC vs LC.
- Exploring relationship between surgeon training.

REFERENCES

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