ROUTINE USE OF THE DAVINCI ROBOTIC PLATFORM FOR CHOLECYSTECTOMY: A HIGH-VOLUME CENTER IMPACT

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INTRODUCTION

- Critics have challenged the routine use of robotics for cholecystectomy (1, 2).
- With the stable optics and interchangeable instruments of the Xi DaVinci platform we analyzed the clinical and financial benefits of routine use of a robotic approach (3).

METHODS

- Retrospective analysis of matched Intuitive and clinical data was performed to evaluate the clinical use, outcomes and financial impact of the routine use of the DaVinci Xi robotic platform for cholecystectomy.
- Cost analysis was performed using 80% utilization of robotic systems and average hospital cost data for the United States.

RESULTS

- The study cohort had similar demographics and clinical presentation including Obesity (BMI>35), cirrhosis, acute cholecystitis, pancreatitis and percutaneous cholecystostomy tube placements.
- The robotic group realized a reduction in stays over 24 hours (47% to 16%) with equivalent complication rates and significant cost savings OR time $92,990 and length of stay $199,290 with an estimated cost savings of $3013.20 per patient or $584,560 for the entire cohort.

	Age (years)	Male (%)	BMI >35 (%)	Acute (%)	Percutaneous Cholecystostomy (%)	Cirrhosis (%)	Pancreatitis (%)	Conversion (%)	OR time (min)	LOS (days)
Robotic N= 97	43.8	29.9	8.2	13.4	6.1	11.3	7.2	0	30.8	0.17
Laparoscopic N= 97	54	42.3	10.3	12.4	14.4	11.3	9.3	6.2	42.1	0.86
p-value	0.318	0.073	0.622	0.831	0.59	1	0.604	***0.013***	***<0.001***	***<0.001***

Table 1. Demographics, Intraoperative and Postoperative Measures. BMI= Body mass index,

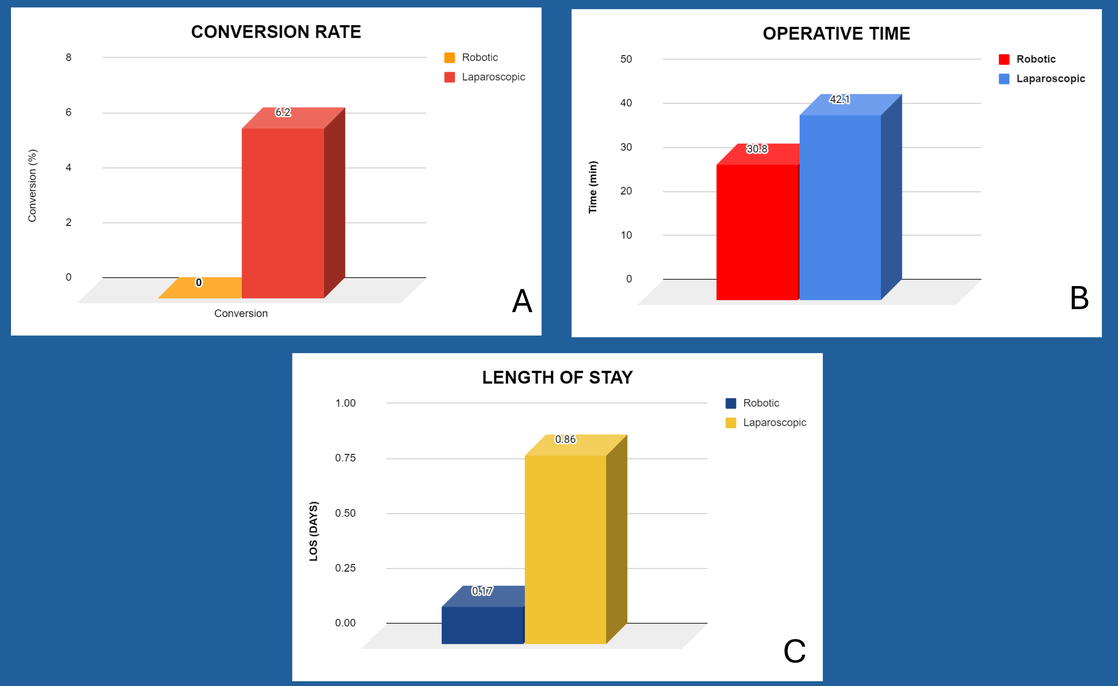


Figure 1: A: Conversion rate; B: Operative Time; C: Length of Stay

CONCLUSIONS

- Robotic cholecystectomy in this series required significantly less conversions resulting in lower operative times, overall length of stay and cost reduction per patient.
- This study will require further analysis of fixed and variable cost associated with robotic systems across variable utilization.

REFERENCES

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