

Learning Curve in Robotic Assisted Colectomy: Comparison of Single Port Robotic Colectomy and Xi Robotic Colectomy

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Background

Single-port (SP) robotic surgery is the latest FDA-approved robotic platform for colorectal surgery, and its clinical applications continue to evolve. There have been several robotic platforms over the years that all require a learning curve. We compared the efficiency and safety of single-port (SP) robotic colectomy to Da Vinci Xi multiport robotic colectomy.

Methods

- Retrospective review of first-year outcomes of one surgeon performing SP robot colectomy versus Xi robot colectomy
- Logistic regression analysis was used in the R programming language
- Endpoints: console time, complications, and short-term outcomes

Results

- Total of 129 patients
- 29 patients in the SP robot group
- 101 patients in the Xi colectomy group
- Complication rate in SP colectomy and Xi colectomy are 0 and 4, respectively (p=0.285)
- Median console time for SP colectomy 123 minutes (SD 42.2) and 122 minutes for Xi colectomy (SD 53.9)

Conclusion

This study shows the trend of console time and operative time decreasing as the surgeon's number of cases increases over one year. The SP robot platform is a safe and efficient alternative to multiport robotic colectomy.

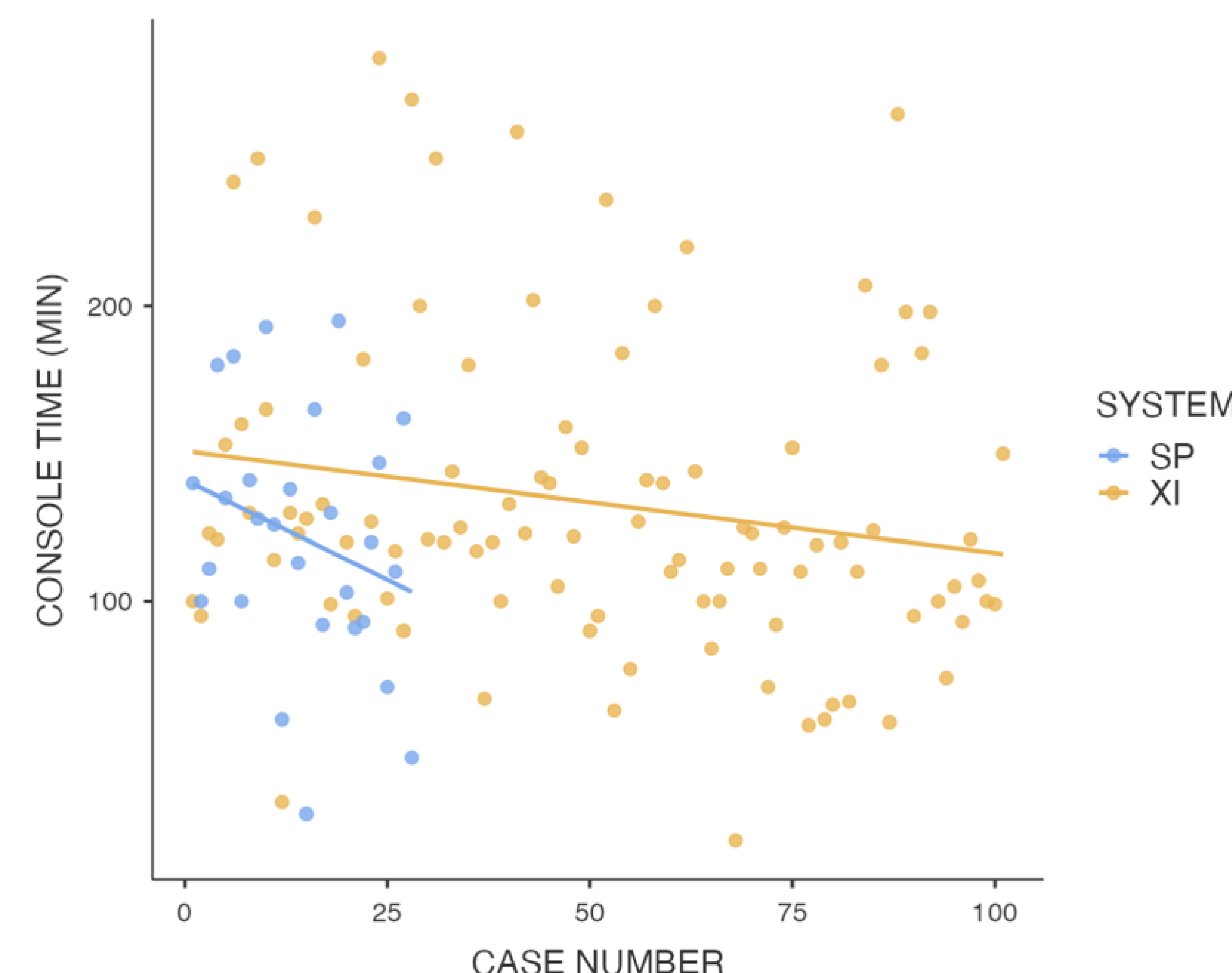


Figure 1: Learning Curve based on Operative Time

Group Descriptives						
	Group	N	Mean	Median	SD	SE
CONSOLE TIME (MIN)	SP	28	121.50	123.00	42.179	7.971
	XI	100	133.16	121.50	53.885	5.3885
BOWEL FX (DAYS)	SP	29	1.00	1.00	0.655	0.122
	XI	101	1.03	1.00	0.591	0.0588
LOS (DAYS)	SP	29	1.41	1.00	1.268	0.236
	XI	101	1.71	2.00	0.983	0.0978

Figure 2: Comparison of Primary Endpoints