

EP07.33: PERIOPERATIVE AND QUALITY-OF-LIFE PRELIMINARY RESULTS OF SINGLE-PORT ROBOTIC LUNG RESECTIONS

Presenting Author: Pierluigi Novellis^{1,2}, Vladislav Zanev^{1,2}, Domenico Pontillo³, Luca De Negri^{1,2}, Cinzia Scala^{1,2}, Stefano Viscardi¹, Francesca Rossetti¹, Piergiorgio Muriana¹, Giulia Veronesi^{1,2}

Affiliations: ¹Department of Thoracic Surgery, IRCCS San Raffaele Scientific Institute, ²University Vita Salute San Raffaele, Milan/IT, ³Department of Anaesthesia and Intensive Care, IRCCS San Raffaele Scientific Institute.

Correspondence: pierluigi.novellis84@gmail.com

INTRODUCTION

Minimally invasive lung resection has evolved in recent years. Uniportal VATS reduces surgical trauma and improves postoperative quality of life, while robotic surgery enhances precision and oncological radicality. The Single-Port (SP) robotic platform aims to further minimize invasiveness while maintaining robotic quality. This study preliminary reports perioperative and quality-of-life outcomes in patients undergoing pulmonary lobectomy and segmentectomy with SP compared to multiport (MP) techniques during the early learning curve.

METHODS

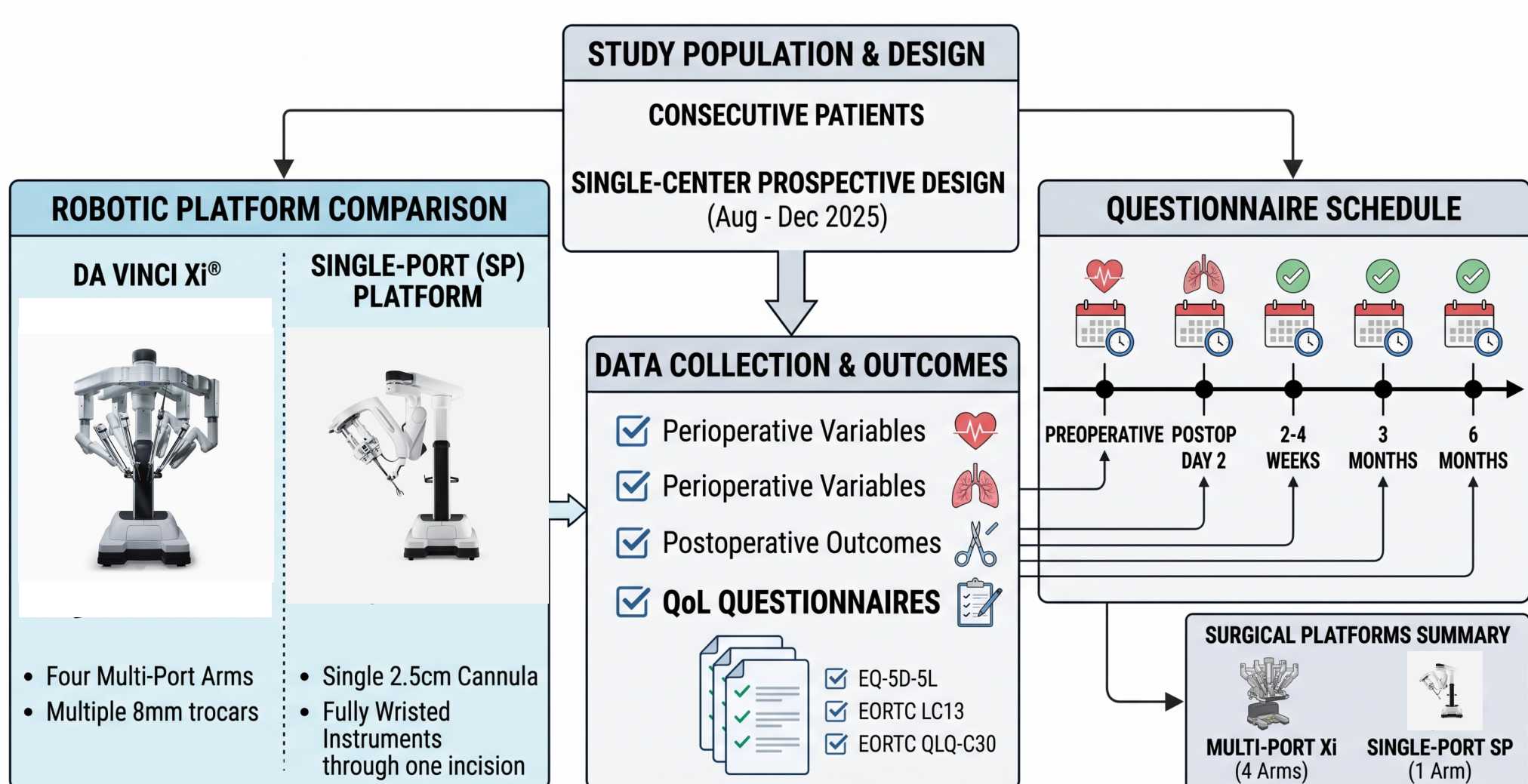
Methods:

This prospective single-center study included patients undergoing robotic anatomic lung resections using the Da Vinci Xi or Single-Port (SP) platform. Consecutive procedures performed between August and December 2025 were analyzed. Perioperative variables and postoperative outcomes were prospectively collected. Quality of life was assessed using the EQ-5D-5L, EORTC LC13, and EORTC QLQ-C30 questionnaires, administered preoperatively, on postoperative day 2, and at 2–4 weeks, 3 months, and 6 months after surgery.

Design:

Prospective, single-center comparative study including consecutive patients undergoing robotic lung resections between August and December 2025.

PROSPECTIVE STUDY FLOW: ROBOTIC ANATOMIC LUNG RESECTION & QUALITY OF LIFE OUTCOMES



DISCUSSION AND CONCLUSION

Take Away Message

- Safe Implementation:** Robotic Single-Port (SP) anatomic lung resection (lobar & sublobar) is feasible and safe, maintaining surgical standards, operative times, and complication rates even during the initial learning curve.
- Patient-Centered Benefit:** Early findings indicate improved quality of life (QoL) and enhanced mobility at 3 months postoperatively with the SP approach.

Future Direction for Research

- Long-Term Validation:** Confirm long-term QoL trajectories and oncological outcomes through multi-center cohorts beyond 6 months.
- Comparative Trials:** Conduct comparative studies (SP vs. Multi-Port) to quantify differences in postoperative pain, analgesic consumption, quality of life (QoL), and oncological outcomes.

REFERENCES & ACKNOWLEDGEMENTS

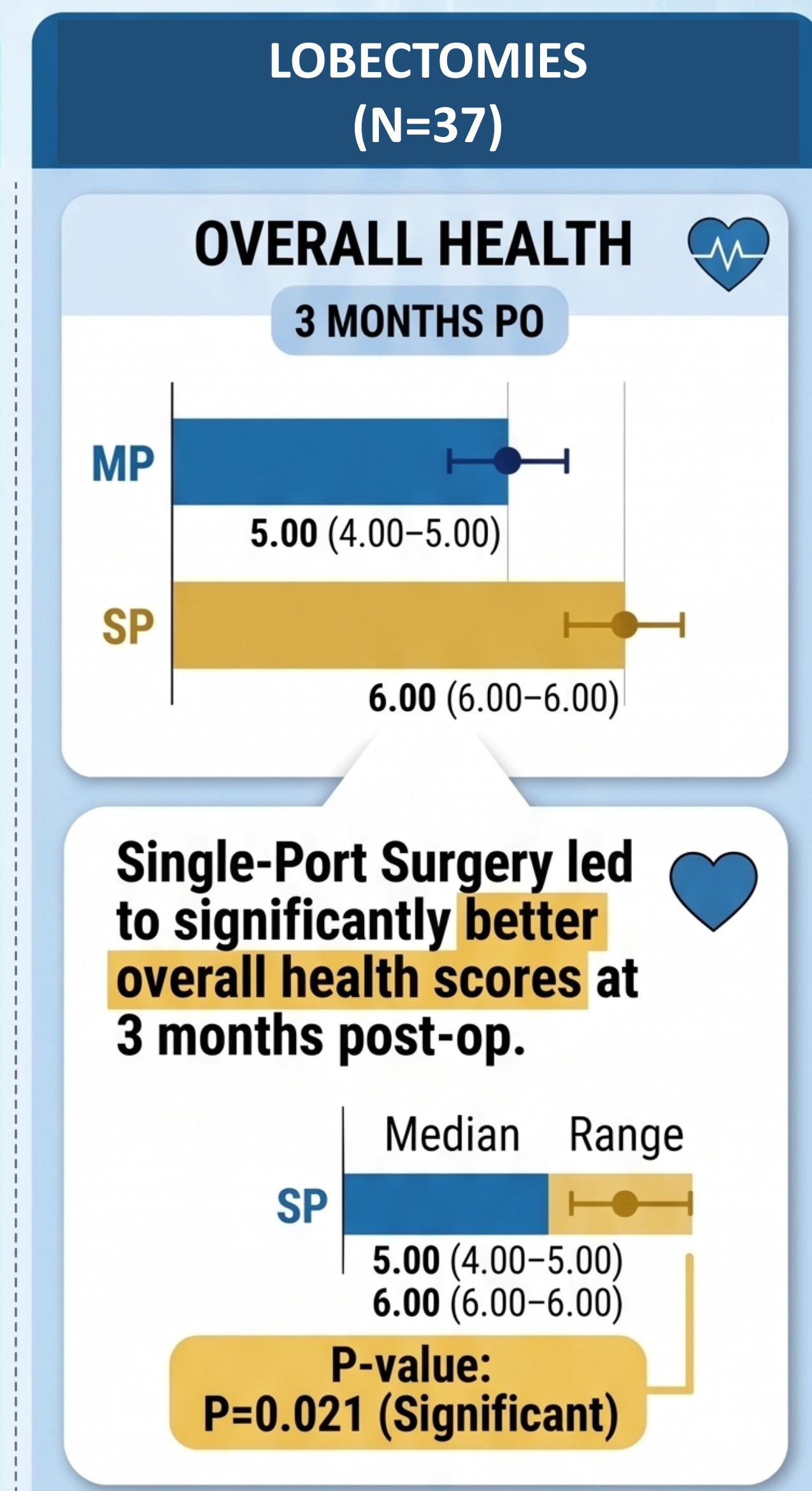
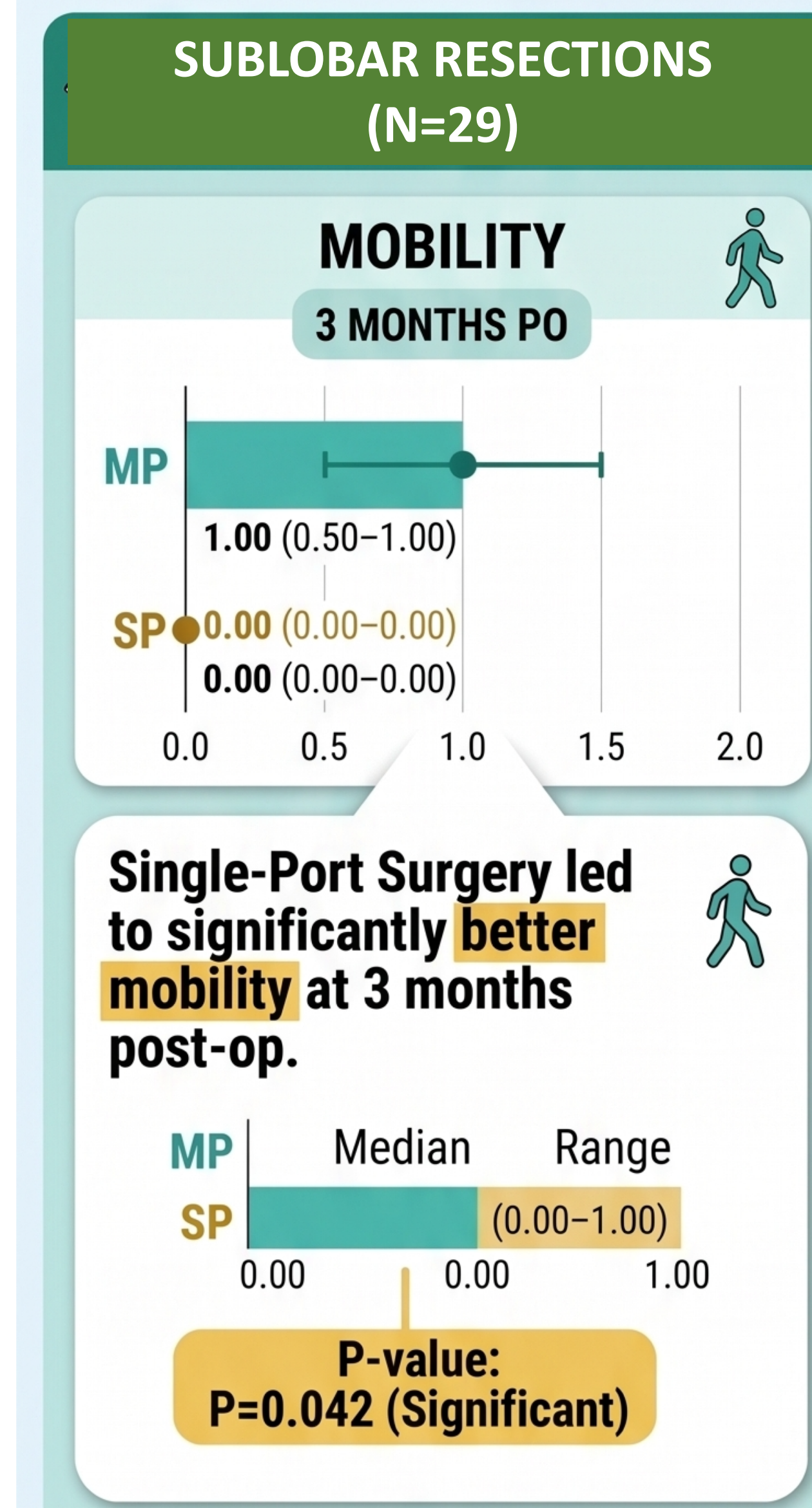
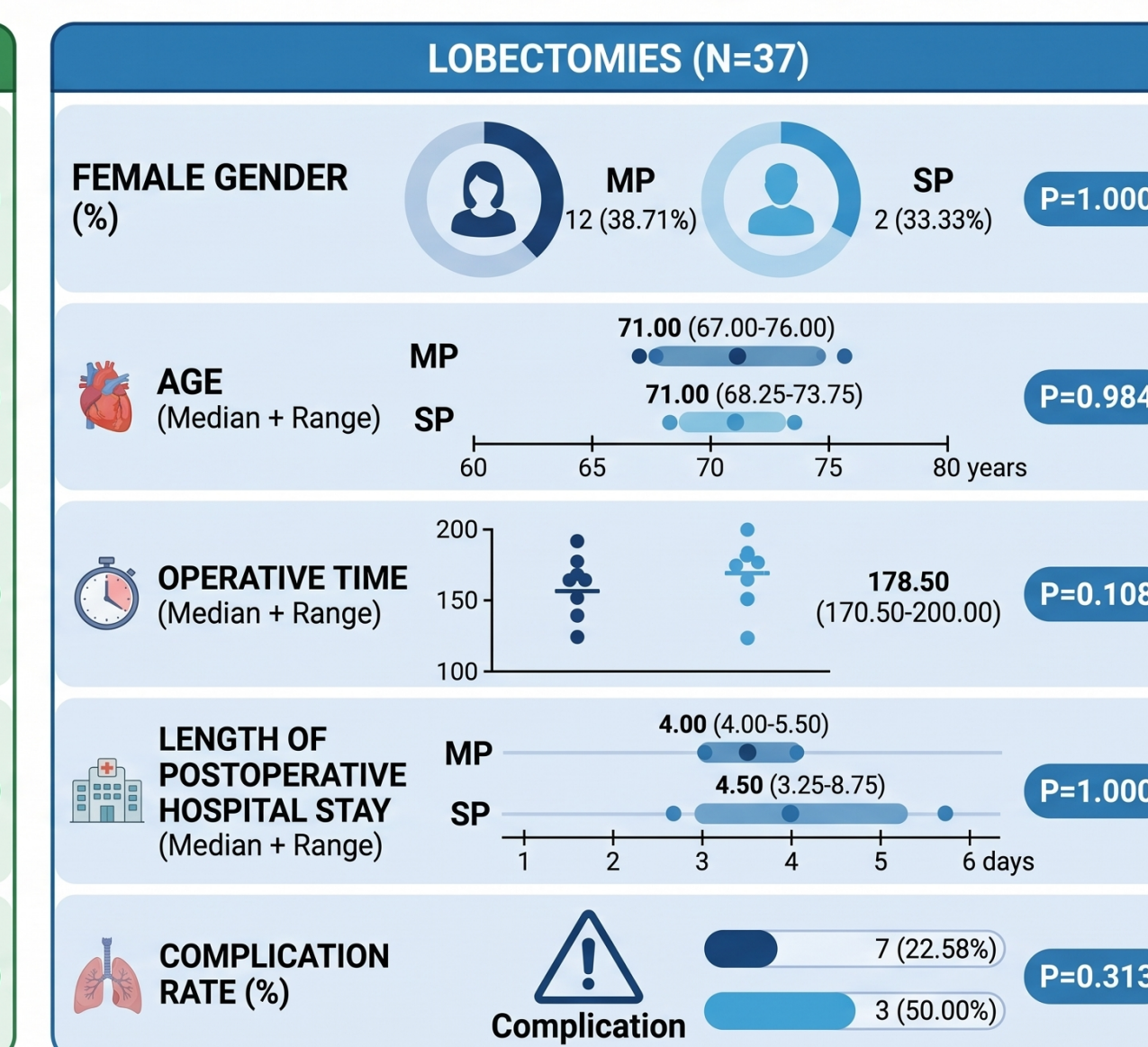
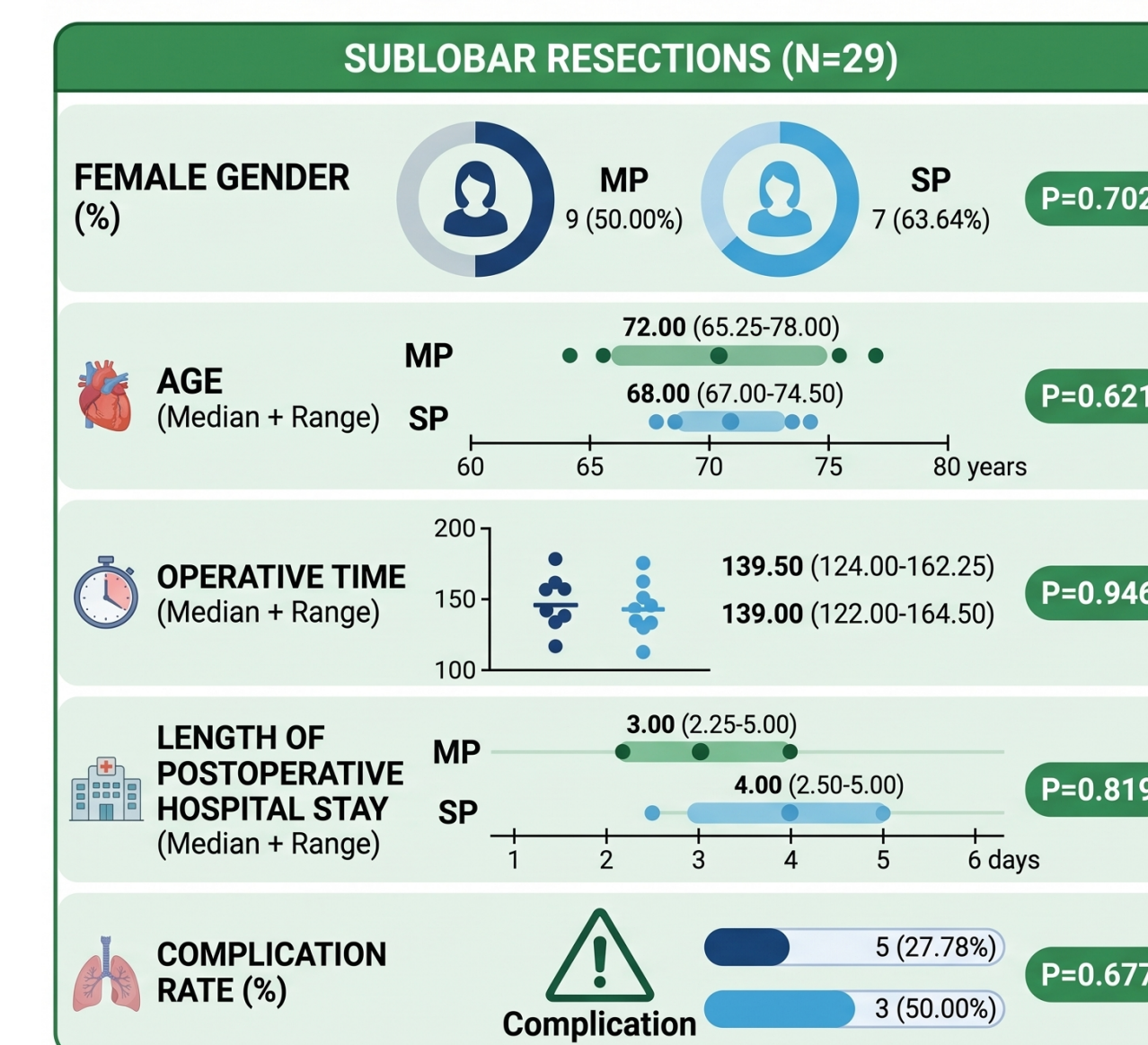
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An AI assistant (ChatGPT) was used to support language editing of this poster, Gemini was used to create images. All data, analyses, figures and scientific content were produced and verified by the Authors.

RESULTS

A total of 66 patients were enrolled in the study. Of these, 37 underwent lobar resection (31MP and 6SP), and 29 underwent sublobar resections (18MP and 11SP). No statistically significant differences were identified in gender, age at surgery, duration of surgery, length of postoperative hospital stay, or incidence of complications. Quality-of-life analysis showed a slight advantage at 3-months in overall perceived quality of life in favor of the SP group (MP 5.00(4.00-5.00) SP 6.00(6.00-6.00), $P=0.021$) for lobectomies, as well as an improvement at three months in mobility in the SP group (MP 1.00 (0.50-1.00), SP 0.00 (0.00-0.00), $P=0.042$) for segmentectomies.



QUALITY OF LIFE QUESTIONNAIRES		SUBLOBAR RESECTIONS (29)			LOBECTOMIES (37)		
		MP	SP	P-value	MP	SP	P-value
MOBILITY	Pre-Operative	0.00 (0.00 - 0.75)	0.00 (0.00 - 0.00)	0.631	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.863
	2nd PO day	0.00 (0.00 - 0.00)	0.00 (0.00 - 1.00)	0.247	0.00 (0.00 - 1.00)	0.00 (0.00 - 1.00)	0.723
	15th-30th PO day	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.276	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.50)	0.531
	3 month PO	1.00 (0.50 - 1.00)	0.00 (0.00 - 0.00)	0.042	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.185
	6 month PO	1.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.527	0.00 (0.00 - 0.50)	0.00 (0.00 - 0.00)	1.000
SELF-CARE	Pre-Operative	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.865	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.028
	2nd PO day	0.00 (0.00 - 1.00)	1.00 (0.00 - 2.00)	0.093	0.00 (0.00 - 1.00)	1.00 (0.00 - 1.00)	0.818
	15th-30th PO day	0.00 (0.00 - 0.25)	0.00 (0.00 - 0.00)	0.848	0.00 (0.00 - 0.25)	0.00 (0.00 - 0.00)	0.375
	3 month PO	0.00 (0.00 - 1.50)	0.00 (0.00 - 0.00)	0.075	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.559
	6 month PO	0.00 (0.00 - 2.00)	0.00 (0.00 - 0.50)	0.724	0.00 (0.00 - 0.50)	0.00 (0.00 - 0.00)	1.000
USUAL ACTIVITIES	Pre-Operative	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.174	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.646
	2nd PO day	0.00 (0.00 - 1.00)	1.00 (0.00 - 2.00)	0.144	0.00 (0.00 - 2.00)	1.00 (0.00 - 1.00)	0.671
	15th-30th PO day	0.50 (0.00 - 1.00)	0.00 (0.00 - 1.00)	0.783	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.50)	0.658
	3 month PO	1.00 (0.00 - 2.00)	0.00 (0.00 - 0.00)	0.084	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.247
	6 month PO	1.00 (0.00 - 2.00)	0.00 (0.00 - 0.00)	0.527	0.00 (0.00 - 0.50)	0.00 (0.00 - 0.00)	1.000
PAIN / DISCOMFORT	Pre-Operative	0.00 (0.00 - 1.00)	0.00 (0.00 - 1.00)	0.676	0.00 (0.00 - 1.00)	0.50 (0.00 - 1.00)	0.507
	2nd PO day	1.00 (1.00 - 2.00)	2.00 (1.00 - 2.00)	0.215	2.00 (1.00 - 2.00)	1.00 (1.00 - 2.00)	0.258
	15th-30th PO day	1.00 (1.00 - 2.00)	1.00 (1.00 - 2.00)	0.514	1.00 (1.00 - 2.00)	1.00 (0.50 - 1.00)	0.421
	3 month PO	1.00 (0.00 - 1.50)	1.00 (0.00 - 1.00)	0.837	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.250
	6 month PO	1.00 (1.00 - 2.00)	1.00 (1.00 - 1.00)	1.000	0.00 (0.00 - 0.50)	0.00 (0.00 - 0.00)	1.000
ANXIETY / DEPRESSION	Pre-Operative	1.00 (0.00 - 2.00)	1.00 (0.00 - 1.50)	0.511	0.00 (0.00 - 2.00)	0.00 (0.00 - 0.00)	0.062
	2nd PO day	1.00 (0.00 - 1.00)	0.00 (0.00 - 0.50)	0.102	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.422
	15th-30th PO day	1.00 (0.00 - 1.00)	0.00 (0.00 - 1.00)	0.204	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.189
	3 month PO	1.00 (0.00 - 1.00)	1.00 (0.50 - 1.50)	0.633	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.50)	0.702
	6 month PO	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	1.000	0.00 (0.00 - 0.50)	0.00 (0.00 - 0.00)	1.000
PERCEIVED HEALTH STATUS	Pre-Operative	70.00 (70.00 - 87.50)	80.00 (70.00 - 92.50)	0.394	80.00 (70.00 - 87.50)	80.00 (80.00 - 87.50)	0.173
	2nd PO day	70.00 (58.75 - 72.50)	70.00 (67.50 - 77.50)	0.417	70.00 (60.00 - 80.00)	60.00 (50.00 - 70.00)	0.259
	15th-30th PO day	65.00 (50.00 - 72.50)	75.00 (50.00 - 80.00)	0.559	80.00 (65.00 - 80.00)	80.00 (75.00 - 80.00)	0.858
	3 month PO	60.00 (47.50 - 80.00)	75.00 (70.00 - 82.50)	0.271	70.00 (70.00 - 80.00)	80.00 (80.00 - 85.00)	0.164
	6 month PO	80.00 (70.00 - 80.00)	70.00 (70.00 - 70.00)	0.763	85.00 (85.00 - 85.00)	80.00 (80.00 - 80.00)	0.248
OVERALL HEALTH	Pre-Operative	6.00 (5.00 - 6.00)	5.00 (4.50 - 6.00)	0.673	6.00 (5.00 - 6.00)	5.50 (5.00 - 6.75)	0.396
	2nd PO day	5.00 (4.00 - 6.00)	5.00 (4.00 - 5.50)	0.592	5.00 (4.00 - 6.00)	4.00 (4.00 - 6.00)	0.914
	15th-30th PO day	4.50 (4.00 - 6.00)	5.00 (4.00 - 5.00)	0.823	5.00 (4.75 - 5.25)	5.00 (5.00 - 5.00)	1.000
	3 month PO	4.00 (3.50 - 6.00)	5.00 (5.00 - 6.00)	0.382	5.00 (4.00 - 5.00)	6.00 (6.00 - 6.00)	0.021
	6 month PO	5.00 (5.00 - 6.00)	6.00 (6.00 - 6.00)	0.763	6.00 (6.00 - 6.00)	6.00 (6.00 - 6.00)	NA
OVERALL QUALITY OF LIFE	Pre-Operative	6.00 (4.25 - 6.00)	6.00 (5.00 - 6.00)	0.521	6.00 (4.50 - 6.00)	5.50 (5.00 - 6.75)	0.638
	2nd PO day	5.00 (4.00 - 6.00)	5.00 (4.50 - 5.50)	0.899	5.00 (4.00 - 6.00)	6.00 (4.00 - 6.00)	0.594
	15th-30th PO day	5.00 (4.00 - 5.00)	4.00 (4.00 - 6.00)	0.882	5.00 (4.50 - 6.00)	6.00 (5.00 - 6.00)	0.315
	3 month PO	4.00 (4.00 - 6.00)	6.00 (5.00 - 6.00)	0.225	5.00 (5.00 - 6.00)	6.00 (6.00 - 6.00)	0.055
	6 month PO	5.00 (5.00 - 6.00)	7.00 (7.00 - 7.00)	0.366	6.00 (6.00 - 6.00)	6.00 (6.00 - 6.00)	NA