



P3.369: PRELIMINARY PERIOPERATIVE AND QUALITY-OF-LIFE OUTCOMES OF SINGLE-PORT ROBOTIC THYMECTOMY



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INTRODUCTION

Robotic thymectomy is an established minimally invasive approach, providing favorable perioperative and oncological outcomes. The single-port (SP) subxiphoid approach may offer further advantages in terms of postoperative recovery and quality of life. However, evidence regarding its early perioperative and quality-of-life outcomes remains limited. We report our initial experience comparing SP and multi-port (MP) robotic thymectomy during the early learning curve.

METHODS

Methods:

Monocentric prospected cohort study including 17 adult patients adults undergoing thymectomy at IRCCS Ospedale San Raffaele. Patients are grouped according to surgical approach: SP or MP. Quality of life is assessed using EORTC QLQ-C30, QLQ-LC13, and EQ-5D-5L at baseline, POD 2, POD 15–30, and 3 and 6 months after surgery. Perioperative, postoperative, and pathological data are collected from medical records. QoL trajectories are compared between groups using mixed-effects linear models.

Design:

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

RESULTS

- Study population:** 17 patients: 8 SP, 9 MP
- Operative time:** Significantly longer in the SP group (189 vs 133 min; P = 0.014)
- Postoperative QoL:** SP showed significantly better outcomes in self-care and usual activities (2.00 vs 0.00; P = 0.003 for both), with better overall perceived QoL (3.00 vs 5.50; P = 0.042) in post-operative day 2.

QUALITY OF LIFE QUESTIONNAIRES				
		MP	SP	P-value
MOBILITY	Pre-Operative	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.663
	2 nd PO day	1.00 (0.75 - 1.00)	0.00 (0.00 - 0.00)	0.017
	15 th -30 th PO day	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.100
	3 month PO	0.00 (0.00 - 0.50)	0.00 (0.00 - 0.25)	1.000
	6 month PO	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	NA
SELF-CARE	Pre-Operative	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.663
	2 nd PO day	2.00 (1.00 - 2.00)	0.00 (0.00 - 0.00)	0.003
	15 th -30 th PO day	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.333
	3 month PO	0.50 (0.00 - 1.25)	0.00 (0.00 - 0.00)	0.186
	6 month PO	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	NA
USUAL ACTIVITIES	Pre-Operative	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.00)	0.360
	2 nd PO day	2.00 (1.00 - 3.25)	0.00 (0.00 - 0.00)	0.003
	15 th -30 th PO day	1.00 (0.00 - 1.00)	0.00 (0.00 - 0.75)	0.377
	3 month PO	0.50 (0.00 - 1.25)	0.00 (0.00 - 0.25)	0.505
	6 month PO	0.00 (0.00 - 0.00)	0.50 (0.25 - 0.75)	1.000
PAIN / DISCOMFORT	Pre-Operative	1.50 (1.00 - 2.00)	1.00 (1.00 - 1.00)	0.220
	2 nd PO day	1.00 (0.50 - 2.00)	1.50 (0.25 - 2.00)	1.000
	15 th -30 th PO day	1.00 (0.75 - 1.25)	0.00 (0.00 - 0.25)	0.206
	3 month PO	1.00 (1.00 - 1.00)	1.00 (0.50 - 1.50)	1.000
	6 month PO	1.00 (0.00 - 1.00)	1.00 (0.00 - 1.00)	0.792
ANXIETY / DEPRESSION	Pre-Operative	1.00 (0.00 - 1.00)	1.00 (0.00 - 1.00)	0.792
	2 nd PO day	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.25)	0.654
	15 th -30 th PO day	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.75)	0.678
	3 month PO	1.00 (0.75 - 1.25)	0.50 (0.00 - 1.25)	0.760
	6 month PO	1.00 (1.00 - 1.00)	0.50 (0.25 - 0.75)	1.000
PERCEIVED HEALTH STATUS	Pre-Operative	80.00 (70.00 - 80.00)	80.00 (77.25 - 85.00)	0.591
	2 nd PO day	60.00 (47.50 - 70.00)	77.50 (66.25 - 82.50)	0.064
	15 th -30 th PO day	70.00 (62.50 - 72.50)	87.00 (76.25 - 97.75)	0.099
	3 month PO	70.00 (67.50 - 76.25)	85.00 (77.50 - 90.75)	0.460
	6 month PO	80.00 (80.00 - 80.00)	89.00 (84.50 - 93.50)	1.000
OVERALL HEALTH	Pre-Operative	5.00 (3.00 - 6.00)	6.00 (5.25 - 6.00)	0.202
	2 nd PO day	5.00 (3.50 - 5.25)	5.00 (5.00 - 6.00)	0.315
	15 th -30 th PO day	5.00 (4.50 - 5.50)	6.00 (4.25 - 7.00)	0.557
	3 month PO	5.50 (4.75 - 6.25)	5.50 (5.00 - 6.00)	1.000
	6 month PO	6.00 (6.00 - 6.00)	5.50 (4.75 - 6.25)	1.000
OVERALL QUALITY OF LIFE	Pre-Operative	5.00 (3.00 - 6.00)	6.00 (5.25 - 6.00)	0.168
	2 nd PO day	3.00 (2.00 - 5.25)	5.50 (5.00 - 6.25)	0.042
	15 th -30 th PO day	5.00 (4.50 - 5.00)	6.00 (4.25 - 7.00)	0.415
	3 month PO	4.50 (4.00 - 5.25)	5.50 (5.00 - 6.25)	0.231
	6 month PO	6.00 (6.00 - 6.00)	5.50 (4.75 - 6.25)	1.000
PAIN MEDICATIONS	Pre-Operative	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.346
	2 nd PO day	1.00 (1.00 - 1.00)	1.00 (0.00 - 1.00)	0.295
	15 th -30 th PO day	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.75)	0.800
	3 month PO	0.00 (0.00 - 0.25)	0.00 (0.00 - 0.25)	1.000
	6 month PO	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	NA
UTILITY OF PAIN MEDICATIONS	Pre-Operative	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	0.346
	2 nd PO day	2.00 (1.75 - 2.00)	1.00 (0.00 - 2.00)	0.160
	15 th -30 th PO day	0.00 (0.00 - 1.00)	0.00 (0.00 - 0.75)	0.869
	3 month PO	0.00 (0.00 - 0.25)	0.00 (0.00 - 0.25)	1.000
	6 month PO	0.00 (0.00 - 0.00)	0.00 (0.00 - 0.00)	NA

Table 1: Quality of life questionnaires

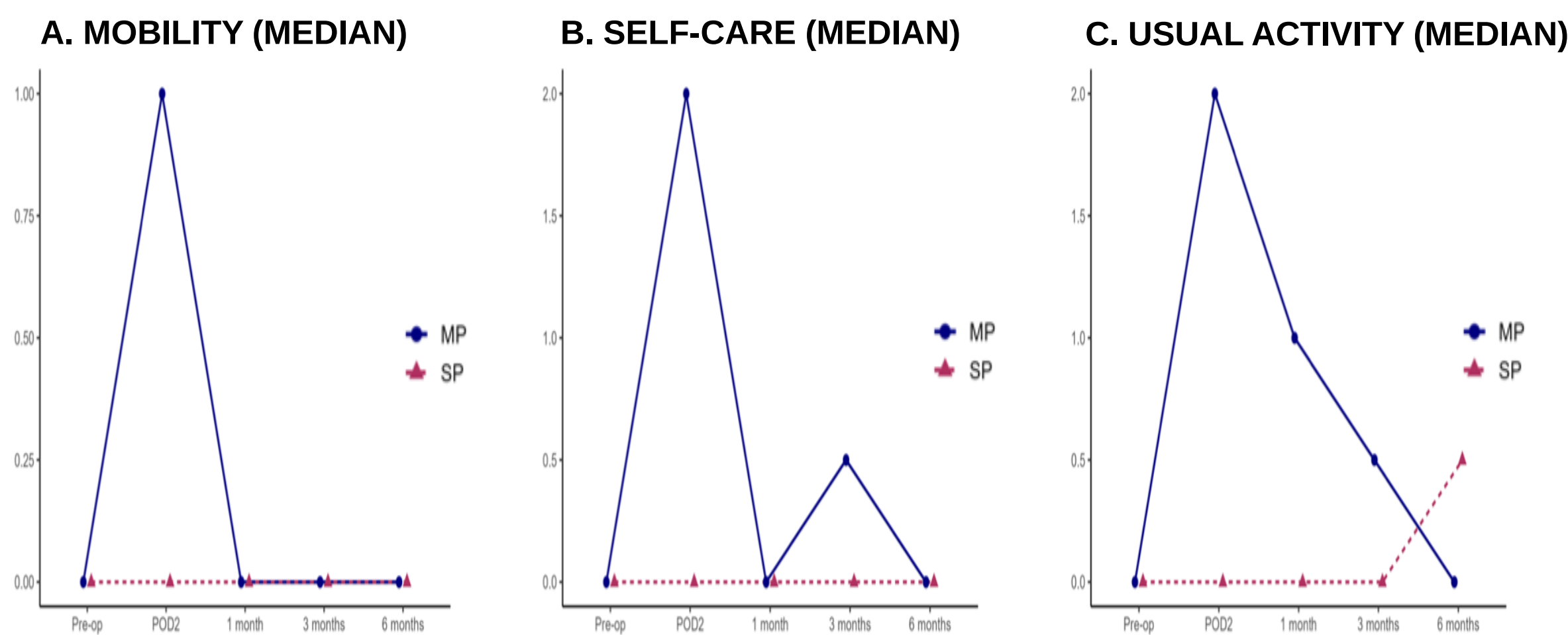


Figure 1: Early Postoperative Quality of Life in post-operative day 2

VARIABLEx	MP THYMECTOMY (9)	SP THYMECTOMY (8)	P-VALUE
Female gender	4 (44.44%)	3 (37.50%)	1.000
Age (median)	56.00 (52.00 - 57.00)	51.00 (43.00 - 60.50)	0.699
Operative time (median)	133.00 (107.00 - 155.00)	189.00 (152.75 - 212.25)	0.014
Lenght of postoperative hospital stay (median)	2.00 (2.00 - 3.00)	2.00 (1.75 - 3.00)	0.580
Complication (%)	1 (11.11%)	2 (25.00%)	0.576
Grade 1 complications (median)	0 (0.00%)	1 (20.00%)	1.000
Grade 2 complications (median)	1 (25.00%)	1 (20.00%)	

Table 2: Baseline characteristics and perioperative outcomes

DISCUSSION AND CONCLUSION

Actionable Take Away Message

SP robotic thymectomy through a subxiphoid approach is feasible and safe in experienced robotic centers. During the early learning curve, the main trade-off is a longer operative time, while perioperative outcomes remain comparable to the multiport approach. The early improvement in self-care, usual activities, and perceived quality of life suggests a potential patient-centered benefit of the single-port approach.

Future Direction for Research

Larger prospective studies with longer follow-up are needed to confirm the potential quality-of-life benefits of SP robotic thymectomy. Future research should focus on patient-reported outcomes, postoperative pain and recovery, functional outcomes, and longer-term oncological results. Multicenter studies may help determine whether these early findings are reproducible and whether the potential benefits of the single-port approach justify its longer operative time.

REFERENCES & ACKNOWLEDGEMENTS

References:



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