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제56차 추계학술대회
2024. 10. 31 (Thu) - 11. 01 (Fri) 여수 엑스포 컨벤션센터

Single-Port vs. Multi-Port Robotic Lobectomy for Non-Small Cell Lung Cancer : da Vinci SP vs. Xi, Subcostal vs. Transthoracic Approach, A Single-Center Retrospective Propensity-Matched Study

Purpose

The da Vinci single-port robotic surgical system (SPS),developed specifically for single-port surgery, was approved for general thoracicsurgery in South Korea in 2020.

We believe that it can combines the advantages of RATS with those of SP surgery. However, the efficacy of this approach was not established.

The aim of this study was to compare the perioperative outcomes of SP-RATS lobectomy using the SPS with MP-RATS lobectomy using Xi, with propensity score matching/

Methods : Schema of patient selection

Retrospective January 2017 to April 2024

All RATS pulmonary resection (N=504)

Excluded (N=157)
1. Wedge resection (N=27)
2. Segmentectomy (N=130)

RATS lobectomy (N=347)

Excluded (N=45)
1.Lobectomy plus segmentectomy (N=2)
2.Sleeve lobectomy (N=10)
3.Bilobectomy (N=5)
4.SP-RATS lobectomy using the Xi (N=10)
5.With histology other than NSCLC (N=12)
6.History of radiotherapy (N=6)

RATS lobectomy for patients with NSCLC (N=302)

SP-RATS lobectomy (N=76)

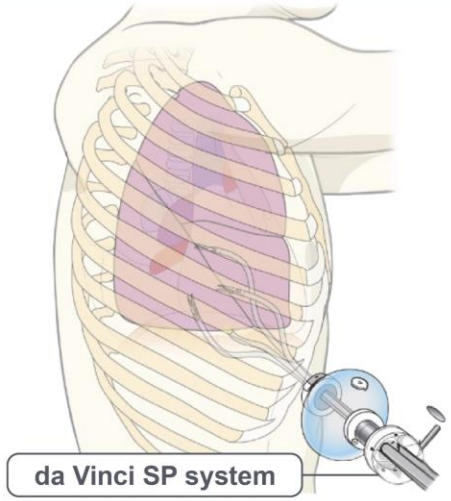
MP-RATS lobectomy (N =226)

Propenstiy score matching

SP-RATS lobectomy (N = 76)

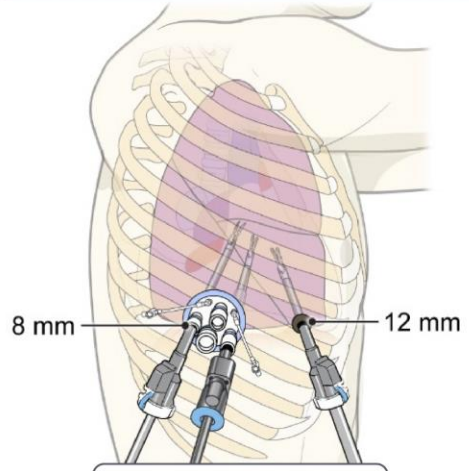
MP-RATS lobectomy (N =76)

Single-port RATS via Subcostal



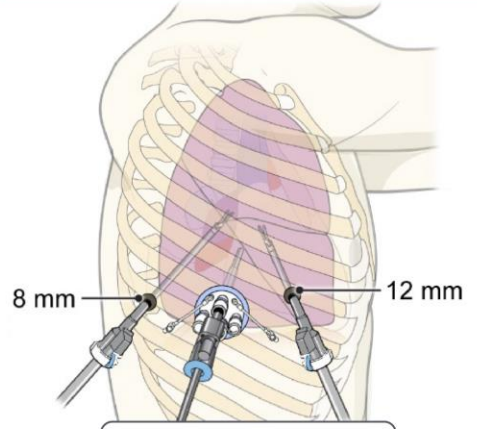
da Vinci SP system

Two-port RATS via Transthoracic



da Vinci Xi system

Three-port RATS via Transthoracic



da Vinci Xi system

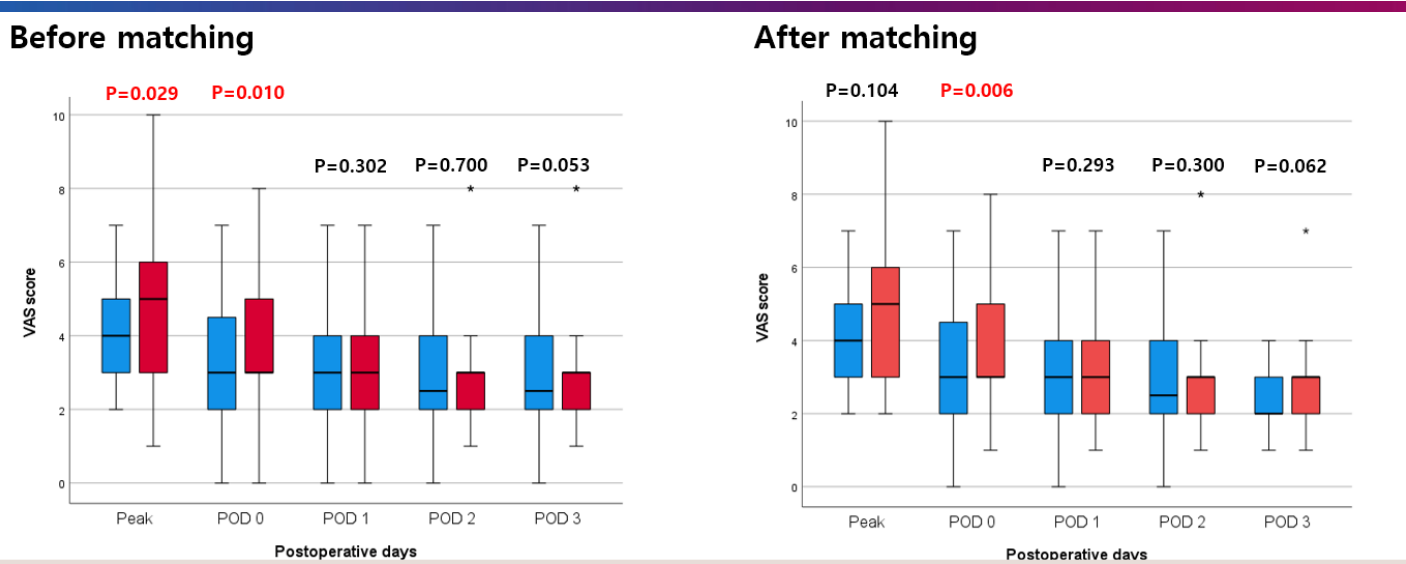
After PSM, patient charactristics and perioperative outcomes were reviewed.

Results : Perioperative outcomes

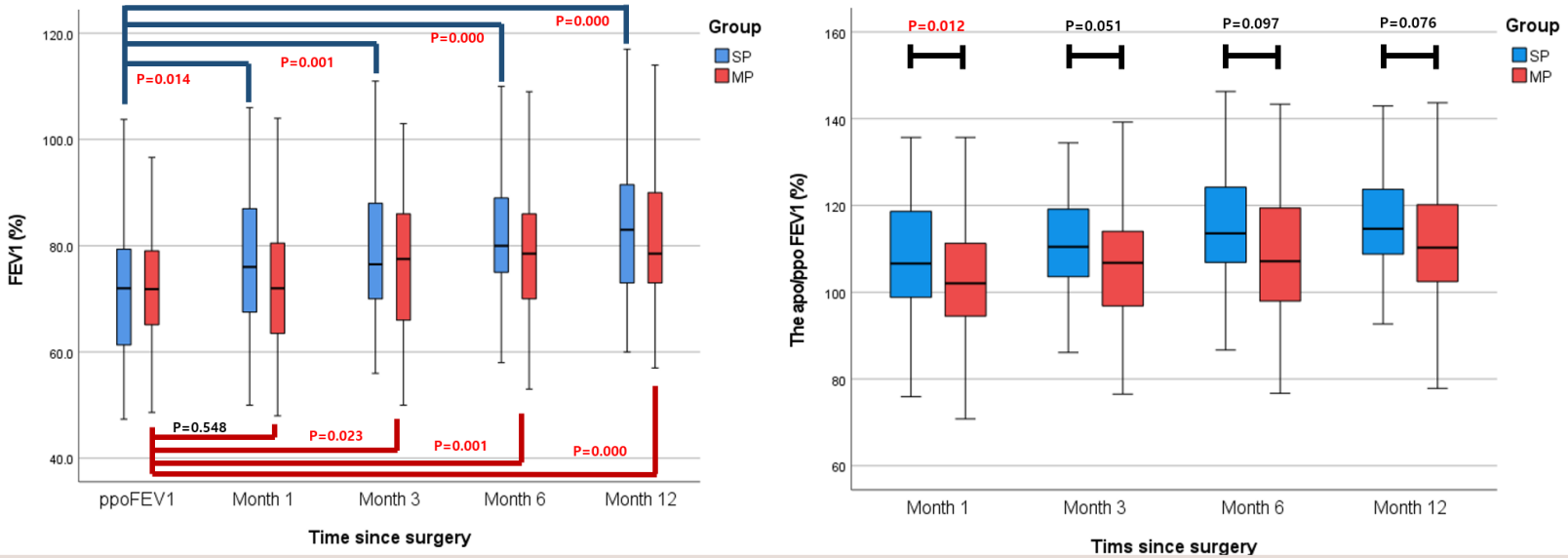
	Unmatched patients			PS-matched patients		
	SP-RATS (n=76)	MP-RATS (n=226)	P-value	SP-RATS (n=76)	MP-RATS (n=76)	P-value
Total operative time (min)	183.62 ± 46.73	206.76 ± 62.89	0.003	183.62 ± 46.73	210.67 ± 68.47	0.005
Total number of lymph nodes harvested	18.96 ± 7.90	17.34 ± 8.02	0.128	18.96 ± 7.90	16.96 ± 6.93	0.099
Total number of lymph node stations harvested	6.67 ± 1.42	6.15 ± 2.07	0.043	6.67 ± 1.43	6.08 ± 1.64	0.019
Conversion event						
to VATS	0	7 (3%)	0.199	0	4 (5%)	0.120
to open	0	4 (2%)	0.575	0	2 (3%)	0.497
Chest tube durations (days)	5.80 ± 6.88	6.54 ± 7.11	0.432	5.80 ± 6.88	5.84 ± 4.00	0.966
Postoperative hospital stays (days)	7.07 ± 6.92	7.92 ± 7.42	0.381	7.07 ± 6.92	7.12 ± 4.31	0.955

After PSM, the SM group had advantages in total operative time and the total number of lymph node stations harvested

Results



SP-RATS was associated with a significant lower pain on POD 0.



SP-RATS was associated with a significant faster recovery of FEV_1

Conclusion

Subcostal SP-RATS lobectomy using the SPS is feasible and safe.

This novel technique was associated with a significantly shorter postoperative time, a higher total number of stations harvested, a lower postoperative pain on POD 0, and a faster recovery of FEV1.

Further randomized controlled trials are necessary to establish potential advantages.