

2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

Single-Port Robot-Assisted Thoracic Surgery using
the Single-port robotic system
: Initial Experience with Over 100 Cases



- This study aimed to report the initial experiences of >100 patients who underwent thoracic surgery using the da Vinci single-port system at a single center.

- Single-port robot-assisted thoracic surgery using the single-port robotic system was performed on 117 patients between November 2020 and June 2023.
- Patient characteristics, intraoperative outcomes, and postoperative outcomes were analyzed retrospectively.

Table 1. Patient characteristics.

Variable	Mean ± SD/Number (percentage)
Age (years)	57.3 ± 11.6
Sex	
Male/Female	54 (46%)/63 (54%)
BMI (kg/m ²)	24.3 ± 3.4
Comorbidities	
HTN	39 (33%)
DM	19 (16%)
COPD	10 (8%)
Type of surgery	
Thymectomy	41 (35%)
Mediastinal mass excision	13 (11%)
Major pulmonary resection	54 (46%)
Minor pulmonary resection	2 (2%)
Esophagectomy	5 (4%)
Enucleation of esophageal SMT	2 (2%)

Table 2. Operative outcomes

Variable	Mean ± SD/Number (percentage)
Approaches	
Subxiphoid	43 (37%)
Subcostal	74 (63%)
Docking time (min)	
Subxiphoid approach	3.7 ± 1.1
Subcostal approach	3.4 ± 1.1
Total operative time(min)	
Thymectomy	152.9 ± 61.7
Mediastinal mass excision	93.3 ± 26.5
Major pulmonary resection	187.2 ± 55.8
Minor pulmonary resection	71.0 ± 12.0
Esophagectomy	485.0 ± 111.9
Enucleation of esophageal SMT	170.0 ± 30.0
Conversion	
To thoracotomy or sternotomy	0
To VATS	1
Additional port	2
Segmentectomy to lobectomy	3

Table 3. Postoperative outcomes

Variable	Mean ± SD/Number (percentage)
Duration of chest drainage (days)	
Thymectomy	1.2 ± 0.5
Mediastinal mass excision	1.0 ± 0
Major pulmonary resection	2.5 ± 1.5
Minor pulmonary resection	1.0 ± 0
Esophagectomy	12 ± 4.6
Enucleation of esophageal SMT	5.5 ± 0.5
Postoperative hospital stays (days)	
Thymectomy	2.9 ± 1.0
Mediastinal mass excision	2.7 ± 0.6
Major pulmonary resection	5.1 ± 4.2
Minor pulmonary resection	3.5 ± 1.5
Esophagectomy	20.4 ± 11.5
Enucleation of esophageal SMT	6.5 ± 0.5
Postoperative complications according to Clavien–Dindo grade	
None	107 (91%)
I	5 (4%)
II	2 (2%)
IIIa	1 (1%)
IIIb	1 (1%)
V	1 (1%)

- No conversion to thoracotomy or sternotomy was performed.
- Conversion to video-assisted thoracic surgery and an additional port were applied in one and two patients, respectively.
- Two patients experienced higher postoperative complications than grade IIIb.

- Single-port robot-assisted thoracic surgery using the da Vinci system is feasible and safe, and more complex thoracic surgeries could be performed using the da Vinci single-port system with the continuous advancement and innovation of instruments in robotic systems.