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11<sup>th</sup> International Meeting on General Thoracic Surgery



Hospital  
Universitari  
Sagrat Cor

10<sup>th</sup> International Workshop on Surgical Exploration of the  
Mediastinum and Systematic Nodal Dissection



5<sup>th</sup> Meeting of the Thoracic Oncology, Thoracic  
Surgery, Techniques & Transplant, Respiratory Nursing  
and Respiratory Physiotherapy Areas of the Spanish  
Society of Pneumology and Thoracic Surgery (SEPAR)



3<sup>rd</sup> Joint Meeting of the Spanish Society of  
Thoracic Surgery (SECT)



30<sup>th</sup> Congress of the "Asociación Iberoamericana  
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10<sup>th</sup> International Workshop on Surgical Exploration of the  
Mediastinum and Systematic Nodal Dissection



## **OUTCOMES OF RATS LUNG RESECTIONS FOR MALIGNANCY IN HIGH-RISK PATIENTS IN COMPARISON WITH VATS AND THORACOTOMY**

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**OBJECTIVES:** Robotic-assisted thoracoscopic surgery (RATS) is a relatively new approach in thoracic surgery. We reviewed high-risk patients at our local high-risk multidisciplinary team (MDT) comparing outcomes of RATS versus video-assisted thoracoscopic surgery (VATS) and thoracotomy (open).

**METHODS:** Retrospective analysis of patients who underwent lung resection between May 2019–August 2023 looking at pre-, intra-, and post-operative variables. Pneumonectomy patients were excluded as none performed via RATS/VATS.

**RESULTS:** 133 patients were eligible and included, divided into RATS (48), VATS (60), open thoracotomy (25). Mean age  $70.9 \pm 9.6$  years and 61 (45.9%) were females. Similar pre-operative characteristics among all 3 groups, including performance status (PS). FEV1 and TLCO were similar between the groups, (0.536 and 0.950, respectively). However, factors like MVO2 was lower in the RATS group, and higher in the VATS and OT groups, ( $15.6 \pm 2.7$  ml/Kg/min,  $16.1 \pm 3.4$  ml/Kg/min,  $19.3 \pm 5.1$  ml/Kg/min, respectively,  $p=0.040$ ). Overall and respiratory complications were less in the RATS versus VATS versus OT group, (38.1%, 53.6%, 70.8% respectively,  $p=0.031$  and 11.9% vs 35.7% vs 41.7% respectively,  $p=0.024$ ). Overall deaths were less in the RATS group during, but survival was similar. (log-rank 2.052,  $p=0.358$ )

**CONCLUSIONS:** Our study has shown that the RATS approach is a safe, minimally invasive technique which can improve patient outcomes without the conversion to thoracotomy, as it allows for comparable outcomes and can help even high-risk patients, which otherwise may not have been offered a surgical option. In some aspects, RATS surgery had better outcomes, but larger scale studies would be required for further assessment.