



# Sixth International Joint Meeting on **THORACIC SURGERY**

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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  
de Cirugía Torácica" AIACT



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



## **SENTINEL LYMPH NODE ASSESMENT DURING LUNG SURGERY OF PATIENTS BY INDOCYANINE GREEN AND NEAR-INFRARED IMAGING**

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**Objectives:** Despite a complete resection, patients with early stage lung cancer often face local disease recurrence after surgery. Pathological staging may be improved by incorporating a sentinel lymph node (SLN) procedure into standard surgical treatment, which would allow targeted evaluation of lymph nodes where metastasis would most likely be harbored. **Methods:** This single-center trial (NCT05555199) included surgically treated patients with proven or suspected stage IA-IIIB lung cancer. Indocyanine green (ICG) was injected intra-/peri-tumorally pre-operatively after which the lung was ventilated for 3 minutes before recollapse and start of lobectomy. Routine resection and systematic lymphadenectomy were subsequently performed, followed by ex-vivo assessment of the collected lymph nodes by near infrared-imaging. Routine pathology protocol for non-SLNs was a single HE-slice. The SLN were evaluated by serial sectioning and H&E- and pan cytokeratine (CK-PAN-)staining. **Results:** Forty-nine patients received a median of four injections with 1ml ICG in a tumor with a median size of 25.9 mm (range, 10.0-49.2 mm) during thoracotomy or (robotic) VATS. In all patients, at least one lymph node could be appointed as the tumor draining lymph node (TDLN). Twelve of 49 patients were diagnosed with lymph node metastases, of which 4 were diagnosed with isolated tumor cells, that had only been found by the additional CK-PAN-staining. There were no serious adverse events. **Conclusions:** Incorporation of an ICG-based SLN procedure during lung surgery is feasible and allows focus of additional pathological efforts to only tumor draining lymph nodes. Routinely performing a SLN procedure could contribute to improved lung cancer staging.