Robotic Lingulectomy for Primary Lung Cancer: A Video Presentation

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Abstract : Purpose: Lobectomy was considered the standard of care for early-stage non-small lung cancer (NSCLC) after the Lung Cancer Study Group trial demonstrated increased locoregional recurrence for sublobar resections. However, there has been heightened interest in segmentectomies for selected patients with peripheral lesions ≤2cm, as investigated by the JCOG0802 and CALGB140503 trials. Minimally invasive robotic surgery facilitates segmentectomies with improved maneuverability and visualization of intersegmental planes using indocyanine green. We hereby present a patient who underwent robotic lingulectomy for an undiagnosed ground-glass opacity. Methodology: This video demonstrates a robotic portal lingulectomy using three 8mm ports and a 12mm port. Stereoscopic direct vision facilitated the identification of the lingula artery and vein, and intra-operative bronchoscopy was performed to confirm the lingula bronchus. The intersegmental plane was identified by indocyanine green and a near-infrared camera. Thorough lymph node sampling was performed in accordance with international standards. Results: The 18mm lesion was successfully excised with clear margins to achieve R0 resection with no evidence of malignancy in the 8 lymph nodes sampled. Histopathological examination revealed lepidic predominant adenocarcinoma, pathological stage IA. Conclusion: This video presentation exemplifies the standard approach for robotic portal lingulectomy in appropriately selected patients.

Keywords : lung cancer, robotic segmentectomy, indocyanine green, lingulectomy
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