



Preface to lung cancer surgery

Lung cancer is the primary cause of cancer-related death and the second commonest cancer worldwide, with an estimated 2.2 million new cases and 1.8 million deaths worldwide reported during 2020. The large healthcare burden has driven research in prevention, early detection with screening, and developments in treatment leading to remarkable improvements in outcomes. Patients with early-stage non-small cell lung cancer (NSCLC) can typically be offered curative surgical resection whereas small cell lung cancer (SCLC) is often managed non-surgically. Patients with stage I NSCLC have a reported 5-year survival of approximately 80%, with stage II–III having a survival rate ranging between 13–60% in the surgical resection cohort. Although associated with substantial toxicities, the addition of adjuvant chemotherapy with stage II, IIIA, and selected stage IB disease can improve survival by a further 5–10%. Therefore, the effective surgical management of lung cancer is strongly underpinned by accurate diagnosis, screening, and staging; with benefits pronounced in early-stage disease. Furthermore, the integration of targeted therapies and immune checkpoint inhibitors (ICIs) into the surgical pathway is the focus of much of the ongoing work in the field.

In this special series, we are covering important topics related to lung cancer and the current state of screening, staging, and perioperative optimization in lung cancer surgery. Different surgical options are then explored, including recent advancements with minimally invasive approaches such as video-assisted thoracoscopic surgery (VATS) and robotic-assisted thoracoscopic surgery (RATS), which improves short-term outcomes and minimizes pain, with comparable oncological outcomes to the traditional thoracotomy. As well as comments on the ongoing discussion on the efficacy of lobectomy versus sub-lobar resection for early-stage lung cancer. We will round off the series with a discourse on what role immunotherapy and targeted therapies can have in a multi-modality surgical pathway.

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