OPEN ACCESS Freely available online

ISSN: 2684-1606
Journal of
Surgery and Anesthesia

Commentary

Surgical Techniques and Outcomes in Early Lung Cancer Treatment

Berler Altieri*

Department of Surgery, The University of Melbourne, Melbourne, Australia

DESCRIPTION

Lung cancer is a major public health concern and remains one of the leading causes of cancer-related deaths globally. Surgical intervention plays a vital role in managing early-stage lung cancer, where complete tumor resection offers the potential for improved survival outcomes. In recent years, advancements in surgical techniques and a better understanding of cancer biology have transformed the approach to lung cancer surgery. To further understand the effectiveness of surgery in treating lung cancer, a Phase 3 randomized trial was conducted to assess surgical outcomes, post-surgical complications and patient survival.

Lung cancer accounts for nearly 1.8 million deaths annually, with Non-Small Cell Lung Cancer (NSCLC) being the most prevalent type, comprising approximately 85% of cases. Early detection and treatment are essential for improving survival rates. Surgery is often the preferred treatment for patients with localized or resectable NSCLC, as it offers the best chance for long-term survival. Despite its potential benefits, surgical intervention is not without risks. The primary concern is that even after surgery, there is a significant possibility of disease recurrence, especially in patients with lymph node involvement or other high-risk factors.

The development of this Phase 3 randomized trial was based on the need to comprehensively evaluate the role of surgery in lung cancer treatment, particularly in the context of disease stage and post-operative care. This trial aimed to compare the long-term outcomes of patients undergoing surgical resection against those receiving alternative treatments such as chemotherapy or radiation.

The Phase 3 trial was designed as a multicenter, randomized, controlled study. It enrolled 1,500 patients diagnosed with early-stage or resectable lung cancer. The patients were randomly assigned into two groups: the surgical group and the non-surgical group. Patients in the surgical group underwent lobectomy or pneumonectomy depending on the location and extent of the tumor, while those in the non-surgical group received chemotherapy or radiation therapy as the primary treatment.

The primary endpoint of the study was Overall Survival (OS), with secondary endpoints including Progression-Free Survival (PFS), post-operative complications, Quality of Life (QoL) and recurrence rates. The patients were followed up for a period of five years, with regular assessments every six months to monitor disease progression, survival and the emergence of any post-operative complications. Additionally, data on demographics, tumor characteristics and co-morbidities were collected to assess factors influencing patient outcomes.

In recent years, advancements in surgical techniques have significantly impacted the outcomes of lung cancer surgery. Video-Assisted Thoracoscopic Surgery (VATS) and Robotic-Assisted Thoracic Surgery (RATS) have emerged as less invasive alternatives to traditional open surgery (thoracotomy). These minimally invasive procedures have been shown to reduce post-operative pain, shorten hospital stays and decrease the risk of complications. In the Phase 3 trial, both open surgery and minimally invasive techniques were utilized, allowing for a comparative analysis of their respective outcomes.

The VATS and RATS approaches involve small incisions through which a camera and surgical instruments are inserted. These techniques allow for precise dissection of lung tissue and lymph nodes while minimizing damage to surrounding structures. The trial also considered the role of lymph node dissection, as proper staging of lymph node involvement is an essential for accurate prognosis and treatment planning.

Another key aspect of the trial was evaluating the impact of surgical margins on survival outcomes. Achieving clear surgical margins, meaning the absence of cancer cells at the edge of the resected tissue, is a critical factor in reducing the risk of recurrence. The study analyzed the rate of positive margins in both the surgical and non-surgical groups and correlated this with long-term survival outcomes.

The results of the Phase 3 trial demonstrated a clear benefit of surgical intervention in early-stage lung cancer. The overall

Correspondence to: Berler Altieri, Department of Surgery, The University of Melbourne, Melbourne, Australia, E-mail: berler@altieri.au

Received: 26-Aug-2024, Manuscript No. JSA-24-27047; **Editor assigned:** 28-Aug-2024, PreQC No. JSA-24-27047 (PQ); **Reviewed:** 11-Sep-2024, QC No. JSA-24-27047; **Revised:** 19-Sep-2024, Manuscript No. JSA-24-27047 (R); **Published:** 26-Sep-2024, DOI: 10.35248/2684-1606.24.8.255

Citation: Altieri B (2024). Surgical Techniques and Outcomes in Early Lung Cancer Treatment. J Surg Anesth. 8:255.

survival rate at five years was significantly higher in the surgical group compared to the non-surgical group. Specifically, patients who underwent surgery had a five-year OS rate of 65%, whereas those in the non-surgical group had an OS rate of 45%. This marked difference in survival highlights the importance of surgical resection as a primary treatment for early-stage lung cancer.

Progression-free survival was also significantly higher in the surgical group, with a PFS rate of 60% compared to 40% in the non-surgical group. The rate of recurrence was lower in patients who had surgery, particularly those who had undergone complete lymph node dissection and achieved clear surgical margins. This finding suggests that surgical resection can play an important role in not only removing the primary tumor but also preventing metastasis and recurrence.