

The time for VATS segmentectomy has come

The number of reports comparing segmentectomy and lobectomy is increasing. The outcomes of segmentectomy for peripheral non-small cell lung cancer (NSCLC) ≤ 2 cm seem to be favorable, and several prospective trials involving intentional limited resection have been conducted. However, the inclusion criteria should be considered carefully to prevent local recurrence after segmentectomy.

The increased adoption of computed tomography (CT) has enabled the detection of small-sized lung nodules. In particular, those with a ground glass opacity component are considered to be minimally invasive lung adenocarcinomas. A smaller resection volume and a less invasive approach are advantageous for such less invasive cancers. Therefore, wedge resection seems to be an option for curative treatment. However, can wedge resection be performed for tumors located in the deep lung parenchyma? For such small pulmonary nodules, especially those located in the deep parenchyma, segmentectomy may be a suitable procedure. However, the segmental anatomy can differ widely between patients, making the procedure challenging. For this reason, some surgeons are reluctant to perform the procedure thoracoscopically. Therefore, can segmentectomy via video-assisted thoracoscopic surgery (VATS) be considered a form of surgical narcissism?

The development of CT paved the way to greater understanding of the bronchovascular tree in the parenchyma of each patient, increasing the precision of anatomical lung segmentectomy and enabling the achievement of sufficient surgical margins. The problem was the technical challenges of performing segmentectomy using the thoracoscopic approach. We began designing resections using three-dimensional reconstructions from multidetector CT to understand the anatomy of each patient and to facilitate surgical planning. In addition, the development of several new surgical instruments, such as bipolar sealing devices, ultrasonically activated devices, and staplers, has changed the way we dissect the lung parenchyma.

With the recent developments in imaging, instruments, and operative technique, the time for VATS segmentectomy has come. When do you start it? It is now or never.

This special issue covers various important topics in thoracoscopic lung segmentectomy from several prominent and outstanding contributors. I would like to express my deep appreciation and gratitude for the outstanding work done by all of the contributors in the production of this timely issue. I hope that all readers enjoy this special issue and that thoracoscopic lung segmentectomy will become more accessible to the readers and safer for the patients.

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