

Sub-lobar surgery for peripheral non-small cell lung cancer non-inferior to lobectomy

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Cancer cell during cell division. Credit: National Institutes of Health

A large international study of patients with non-small cell lung cancer tumors that are two centimeters or less found that sub lobar surgery was non-inferior to lobectomy, according to results presented today at the

IASLC World Conference on Lung Cancer 2022 in Vienna.

In sub-lobar [resection](#), the surgeon removes only the tumor and a small portion of the lung compared to a lobectomy where an entire portion of the lung is removed. The increased detection of small-sized peripheral non-small cell [lung cancer](#) has renewed interest in sub-lobar resection in lieu of lobectomy, according to N.K. Altorki, MD, from Weill Cornell Medicine-New York Presbyterian Hospital in New York City.

Dr. Altorki and his research colleagues conducted CALGB140503 (Alliance), a multicenter international non-inferiority phase III trial in which NSCLC [patients](#) clinically staged as T1aN0 ≤ 2 cm were randomly assigned to lobar or sub-lobar resection. Non-inferiority trials seek to determine if an experimental therapy is not worse than standard of care or the comparator therapy. The primary endpoint is disease-free survival and secondary endpoints included overall survival and the difference in pulmonary functions at six months postoperatively between [arms](#).

The trial enrolled 1,080 patients with clinical stage IA NSCLC between June 2007 and March 2017. To be eligible for the study, patients had to have pathologically confirmed NSCLC and node-negative disease at level 10 and up to two mediastinal stations prior to randomization. Of the 1,080 patients enrolled, 697 patients were intraoperatively randomly assigned to either lobar (357 patients) or sub-lobar (340 patients) resection. Basic demographic and clinical characteristics were balanced between the two arms of the trial and minimally invasive approaches were utilized for 80% of all resections

Dr. Altorki and researchers at participating sites followed patients for seven years and determined the non-inferiority significance boundary had not been crossed. For disease-free survival, the primary endpoint of the trial, the stratified hazard ratio (HR) was 0.999

(95%CI,0.784—1.272, 90% CI, 0.816—1.224). For overall survival the stratified HR was 0.930 (95% CI, 0.695—1.243, 90% CI, 0.728—1.187). In the sub-lobar arm and the lobectomy arm the five-year [disease-free survival](#) rate was 63.9% (95% CI, 58.7-69.5), and 64.3% (95% CI,59.2-69.8), respectively.

Thirty- and 90-day mortality were 1.1% and 1.7% after lobar resection and 0.6% and 1.2% after sub-lobar resection. The results of this large North American/international randomized trial show that for patients with peripheral NSCLC 2 cm or less in size who have pathologically confirmed node-negative disease in major hilar and mediastinal lymph nodes, sub-lobar resection is non-inferior to lobectomy.

Provided by International Association for the Study of Lung Cancer

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