

# Lobar Versus Sublobar Resection for Peripheral Clinical T1aN0 Non-small Cell Lung Cancer (NSCLC): A Post-Hoc Analysis of CALGB/Alliance 140503

## Objective

We have recently reported the primary results of CALGB/Alliance 140503, a randomized trial in patients (pts) with peripheral cT1aN0 NSCLC (AJCC 7th) treated with either lobar (LR) or sublobar resection (SLR). Here we report differences in DFS, OS and recurrence free survival (RFS) between LR, segmental (SR) and wedge resections (WR). We also report differences between WR and SR in surgical margins, rates of locoregional recurrence (LRR) and expiratory flow rates at 6 months postoperatively.

## Methods

Between 6/07 and 3/17, 697 pts were randomized to LR (357) or SLR (340) stratified by clinical tumor size (1cm, 1-1.5 cm, >1.5-2.0cm), histology and smoking history. 10 patients were converted from SLR to LR and 5 from LR to SLR. Surgical margins in the SLR group were measured intraoperatively by the surgeon. LRR was defined as recurrent disease in the lung or the hilar nodes of the index lobe. Survival end points were estimated by the Kaplan–Meier estimator, and tested by logrank test. Kruskal-Wallis test was used to compare margins and FEV1 changes between groups; and Chi-square test was used to test the association between recurrence and groups.

## Results

362 pts had LR, 131 had SR and 204 had WR. Baseline demographic and clinical characteristics were similar between all three groups. 5-year DFS was 64.7% after LR [95% CI; 59.6-70.1%], 63.8% after SR [95% CI; 55.6 ? 73.2%] and 62.5% after WR [95% CI; 55.8 ? 69.9%] (Logrank,  $p = 0.888$ ). Five year OS was 78.7% after LR, 81.9% after SR and 79.7% after WR (Logrank,  $p = 0.873$ ). RFS was 72% after LR, 68.5% after SR and 69.8% after WR (Logrank,  $p = 0.709$ ). There were no differences between groups in the cumulative incidence of lung cancer deaths or competing causes of death. LRR occurred in 10% of pts after LR, 12% after SR and 14% after WR ( $p=0.295$ ). Information on surgical margins was available for 136 patients after WR (66%) and 76 after SR (58%). Median margin length was 1.6 cm after WR and 2.0 cm after SR ( $p=0.03$ ). Median margin/clinical tumor ratio was 1.2 after WR and 1.3 after SR ( $p=0.07$ ). A positive surgical margin was present in 3 patients after LR (0.8%), 2 patients after SR (1.5%) and 10 patients after WR (4.9%) (Fisher's exact,  $p=0.007$ ). At 6 months postoperatively, the median reduction in % FEV1 was 5% after WR and 3% after SR ( $p=0.9304$ ).

## Conclusions

In this large randomized trial, LR, SR and WR were associated with similar survival outcomes. Although LRR was numerically higher after both modalities of SLR compared to LR, the difference was not clinically meaningful. There was no significant difference in the reduction of FEV1 between the SR and WR groups. Support: U10CA180821, U10CA180882; <https://acknowledgments.alliancefound.org> ClinicalTrials.gov Identifier: NCT00499330

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