



VALIDATION OF THE IASLC DEFINITIONS IN A SINGLE-INSTITUTION SURGICAL SERIES

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Objective:

In patients with non-small cell lung cancer (NSCLC), in the absence of distant metastasis, complete surgical resection continues to be the mainstay therapeutic modality. However, controversy exists about the definition of complete resection in NSCLC surgery and inconsistencies regarding the impact of incomplete resection on prognosis further complicate matters. In 2005, the International Association for the Study of Lung Cancer (IASLC) proposed several criteria to define complete and incomplete resection in NSCLC surgery, incorporating also the concept of systematic nodal dissection. Besides, a third category of uncertain resection was added.

The aim of this study is to reappraise the prognostic significance of the IASLC definitions of complete, uncertain, and incomplete resection in NSCLC surgery.

Patients and methods:

Single institution retrospective study of consecutive patients undergoing surgery for NSCLC between 1998 and 2007. Complete resection was defined by absence of gross and microscopic residual disease; systematic nodal dissection; no extracapsular extension in distal lymph nodes; and negativity of the highest mediastinal node removed. An uncertain resection was defined by free resection margins, but one of the following applied: lymph node evaluation less rigorous than systematic nodal dissection; positivity of the highest mediastinal node removed; presence of carcinoma in situ at the bronchial margin; positive pleural lavage cytology. A resection was defined incomplete by presence of residual disease; extracapsular extension of lymph nodal metastases; positive cytology of pleural or pericardial effusions. Follow-up was complete and all patients were followed up until death or for a minimum period of 5 years.

Results:

A total of 1277 patients were identified. One thousand and three patients (78.5%) underwent complete resection, 185 (14.5%) underwent uncertain resection, and 89 (7.0%) underwent incomplete resection. When comparing the three groups, there was no significant difference with regard to baseline demographic and clinical variables. However, several differences were identified in treatment and tumor variables. Patients undergoing uncertain or incomplete resection were more likely to have received induction therapy and to receive adjuvant therapy. In addition, there were significant differences between the groups in the types of surgery. The groups were otherwise similar for perioperative outcomes. As for tumor variables, patients undergoing complete resection were more likely to have a smaller tumor size and lower

pathologic disease stage. Both uncertain and incomplete resection were associated with significantly worse OS when compared with complete resection (hazard ratio: 1.69 and 3.18, respectively; both $p=0.0001$). Median OS and 5-year survival rate were 80.1, 39.9, 17.3 months and 58.8%, 37.3%, 15.7% in patients undergoing complete, uncertain, and incomplete resection, respectively.

Conclusion:

Our current experience confirms that in patients undergoing surgery for NSCLC, the IASLC definitions of complete, uncertain and incomplete resection are associated with statistically significant differences in survival.