The favorable prognostic significance of atelectasis in patients with advanced non-small cell lung cancer - results of a prospective observational study

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Purpose. For lung cancer, the TNM staging system included atelectasis (At) as a negative prognostic factor, within the T category. However, according to our clinical experience, we observed the opposite. The aim of the study was to evaluate the influence of At on patient outcome for unresectable stage III and IV non-small cell lung cancer (NSCLC). Patients and methods. We prospectively evaluated the patient survival data, in correlation with the presence, At(+), or absence, At(−), of At. A distinct analysis according to stage was preplanned. Univariate and multivariate analysis were performed to refine the prognostic significance of At. Results. We evaluated 1352 consecutively treated patients, during 1997-2004. Sixty-eight patients (5%) were identified with At, of which 46/592 (8%) were in stage III, and 22/760 (3%) were in stage IV. The survival data were significantly better for patients At(+) vs. At(−); median overall survival (OS) was 21 months (95% confidence interval [CI]; 12.37-29.63) vs. 10 months (95% CI; 9.25-10.75) (p<0.001), and median progression free survival (PFS) was 17 months (95% CI; 11.71-22.29) vs. 7 months (95% CI; 6.48-7.52) (p<0.001). The most consistent difference, favoring patients At(+), was noted for patients in stage III, with OS of 24 months (95% CI; 18.65-29.35) vs. 14 months (95% CI; 12.43-15.57) (p<0.001), and PFS of 19 months (95% CI; 12.11-25.89) vs. 8 months (95% CI; 6.89-9.02) (p<0.001). In stage IV, we noted a non-significant trend toward improved survival in patients At(+); OS: 16 months (95% CI; 4.49-27.51) vs. 9 months (95% CI; 8.51-9.49) (p=0.21), and PFS: 8 months (95% CI; 5.80-10.20) vs. 6 months (95% CI; 5.36-6.64) (p=0.12). The multivariate analysis showed that At, stage and ECOG performance status were independent predictors for survival. Conclusion. At predicts a better survival in patients with advanced NSCLC. The prognostic value is more stringent for stage III patients. The 2016 revised edition of the TNM staging system withdrew At from the non-sized base negative predictors, which is according to our results.