Clinical significance of lymphatic vessel invasion in stage I non-small cell lung cancer patients

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ABSTRACT. The aim of this retrospective study was to evaluate the prognostic influence of lymphatic vessel invasion (LVI) in stage I non-small cell lung cancer (NSCLC) patients. From January 2004 to December 2007, LVI was detected in 57 patients with T1N0M0 NSCLC; therefore, 114 patients with the same pathology, T stage, and surgery method, but without LVI, were selected as the control group to compare survival. The overall survival and relapse-free survival rates were estimated using the Kaplan-Meier method, log-rank test, and Cox proportional hazards analysis. The average follow-up length was 59.94 ± 23.1 months. The 5-year overall survival rates of the LVI-negative and the LVI-positive groups were 90.54 and 70.1%, respectively (P = 0.002). A multivariate analysis revealed LVI to be an independent predictive factor (hazard ratio = 4.562; P = 0.004). The 5-year overall survival rates for patients who received postoperative adjunctive therapy and those who did not in the LVI-positive group were 88.2 and 61.5%, respectively, with a P value less than 0.05 in both univariate and multivariate analyses. LVI is a poor prognostic factor in stage I NSCLC patients; postoperative adjunctive therapy is needed to improve the
prognosis of NSCLC patients with LVI.

Key words: Lymphatic vessel invasion (LVI); Prognosis; Postoperative adjunctive therapy; Stage I non-small cell lung cancer (NSCLC)