Diagnosis of lymph node micrometastasis at the pN₀ stage of lung adenocarcinoma using a combination of markers

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ABSTRACT. This study aimed to detect micrometastatic tumor cells in the lymph nodes of patients with pN₀ lung adenocarcinoma using a combination of thyroid transcription factor-1 (TTF-1) expression and cytokeratin 7 (CK7) expression and to investigate the association of lymph node micrometastasis with the clinicopathological characteristics of patients with lung adenocarcinoma. A total of 54 patients with pN₀ lung adenocarcinoma and whose primary tumors were positive for both TTF-1 and CK7 expression were included in this study. In total, 893 lymph nodes were obtained from these 54 patients and were analyzed for micrometastasis by immunohistochemical staining with anti-CK7 and anti-TTF-1 antibodies. CK7- and TTF-1-positive cells were found in the lymph nodes of 9 (16.7%) of 54 patients, and 21 (2.4%) of 893 lymph nodes exhibited positivity for these factors. No cells positive for both CK7 and TTF-1 were detected in the 5 lymph nodes obtained from patients with benign lung tumors. Lymph node micrometastasis was found to be associated with the differentiation grade and primary tumor position (P < 0.05). The detection of lymph node micrometastasis by a combination of CK7 and TTF-1 immunohistochemical staining...
provides a more accurate assessment of tumor staging for pN\textsubscript{0} lung adenocarcinoma.

**Key words:** Lung adenocarcinoma; Lymph node micrometastasis; Thyroid transcription factor-1; Cytokeratin 7