GMR Genetics and Molecular Research
Online Journal
ISSN:1676-5680

Diagnosis of lymph node micrometastasis at the pN_0 stage of lung adenocarcinoma using a combination of markers

H. Liu[1], Y.-K. Ye[1], G.-M. Li[2], Y. Zhou[1], K.-B. Han[1], G. Xu[1] and D. Wang[1]

[1]Department of Thoracic Surgery, Jingdu Hospital, Nanjing, China
[2]Department of Pathology, Jingdu Hospital, Nanjing, China

Corresponding author: D. Wang
E-mail: dongwangcn@yeah.net

Genet. Mol. Res. 13 (3): 5594-5600 (2014)
Received July 24, 2013
Accepted December 16, 2013
Published July 25, 2014
DOI http://dx.doi.org/10.4238/2014.July.25.14

ABSTRACT. This study aimed to detect micrometastatic tumor cells in the lymph nodes of patients with pN_0 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 pN_0 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_0 lung adenocarcinoma.

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

