Prognostic value of CD44 isoform expression in thymic epithelial neoplasms

Satoshi Sonobe, M.D. 1 *, Hideaki Miyamoto, M.D. 1, Bunsei Nobukawa, M.D. 2, Hiroshi Izumi, M.D. 2, Toshiro Futagawa, M.D. 1, Noboru Ishikawa, M.D. 1, Akio Yamazaki, M.D. 1, Toshimasa Uekusa, M.D. 3, Hiroshi Abe, Ph.D. 2, Koichi Suda, M.D. 2

1Department of General Thoracic Surgery, Juntendo University, School of Medicine, Tokyo, Japan
2Department of Pathology (I), Juntendo University, School of Medicine, Tokyo, Japan
3Department of Clinical Pathology, Labor Welfare Corporation Kanto Rosai Hospital, Kanagawa, Japan
email: Satoshi Sonobe (ssonobe@s3.dion.ne.jp)

*Correspondence to Satoshi Sonobe, Department of General Thoracic Surgery, Juntendo University, 2-1-1 Hongo, Bunkyo-ku, Tokyo 113-0033, JapanFax: (011) 81-3-5800-0281

Keywords

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Abstract

BACKGROUND

Many histologic classifications of thymic epithelial tumors have been reported to date, but to the authors' knowledge, none of them closely reflect the clinical behavior or prognosis of the tumor. Therefore, it is necessary to establish a biologic marker for thymic epithelial tumors. Variants of CD44 may be important in promoting tumor progression and metastasis. Accordingly, the expression of CD44 isoforms in thymic epithelial neoplasms was investigated using immunohistochemistry to assess their possible value as prognostic indicators.

METHODS

Expression of CD44v6 in thymic epithelial tumors was investigated with immunohistochemistry using consecutive surgical specimens resected from 108 patients between 1983 and 2002 at Juntendo University Hospital in Tokyo, Japan.

RESULTS
Among the 108 thymic epithelial tumors, 70 were negative for CD44v6, 20 were weakly positive, and 18 were strongly positive. The status of CD44v6 expression (negative vs. weakly plus strongly positive) was found to be correlated with the tumor stage according to the Masaoka staging system (noninvasive vs. invasive tumors) ($P = 0.0214$). When patients with tumors that were negative and weakly positive for CD44v6 expression were combined, the 5-year, 10-year, and 15-year recurrence-free survival rates were 98.2%, 95.9%, and 86.1%, respectively, whereas the corresponding rates for patients with strongly positive tumors were 73.5%, 73.5%, and 55.1%, respectively. Therefore, these two groups demonstrated a significant difference with regard to recurrence-free survival ($P = 0.0172$).

CONCLUSIONS
CD44v6 expression in thymic epithelial neoplasms demonstrated a significant difference based on the World Health Organization classification, the Masaoka stage (invasive vs. noninvasive tumors), and recurrence, if an appropriate cutoff value was chosen in each case. This suggests that CD44v6 can be used as a marker that reflects the stage of thymic tumors. Cancer 2005. © 2005 American Cancer Society.