Letter to the Editor

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Interstitial Naive and Memory T Cells in Chronic Mesangial Proliferative Glomerulonephritis

N. Naohiro Yano
M. Masayuki Endoh
A. Abul Kashem
M. Masanobu Miyazaki
Y. Yasuo Nomoto
H. Hideto Sakai

Department of Internal Medicine, School of Medicine, Tokai University, Kanagawa, Japan

Naohiro Yano, MD, Department of Internal Medicine, Tokai University, Isehara, Kanagawa, 259-11 (Japan)

Dear Sir,

The degree of cell infiltration in the interstitium showed direct correlation with the severity of glomerular damage in typical cases of primary glomerulonephritis [1]. However, the role of interstitial infiltrating cells in the progress of glomerulonephritis has not been clarified. A common finding in previous reports [2, 3] is the dominance of CD4-positive helper/inducer T cells in the interstitium.

For further analysis of the phenotypes and the roles of interstitial cells, immunohistochemical staining of CD45RA-positive cells, that is, non-antigen-stimulated ‘naive T cells’ and CD45RO-positive cells, that is, antigen-stimulated ‘memory T cells’ [4, 5] in primary chronic mesangial proliferative glomerulonephritis (CGN) using the avidin-biotin complex peroxidase technique was performed. As shown in table 1, we evaluated renal tissues after separating them into two groups, i.e., mild glomerular change group (grade I or II) and moderate to severe change group (grade III or IV). CD45RO-positive memory T cells were the dominant population of interstitial infiltrating T cells (fig. 1). Memory T cells are known as producers of cytokines [5,6]. In order to evaluate the hypothesis that infiltrating T cells produce cytokines, we attempted immunohistochemical peroxidase-alkaliphosphatase double staining using several anticytokine antibodies, but no clear signals indicating memory T cells produced some cytokines could be obtained. A sophisticated technique such as the in situ hybridization method is required to clarify the role of interstitial memory T cells.

Acknowledgement
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Table 1. Percentage of positive cells in all countable infiltrating cells

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<th>Group</th>
<th>Naive</th>
<th>Memory</th>
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<tr>
<td>Mild CGN</td>
<td>44.8 ± 10.6</td>
<td>30.6±8.0</td>
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9.0±4.5 9.0±4.5 12.2±8.0 11.1±7.0 10.4±8.3
(n = 12)
21.3 ± 12.4
39.8 ± 8.7
Severe CGN 43.8 ± 15.5 36.9 ± 11.8 12.2 ± 6.9
(n=23)
18.9 ± 12.3 34.6 ± 11.4
Total 44.4 ± 14.0 34.5 ± 11.0 11.7 ± 5.8
Results are percentage of stained cells among all infiltrating cells (mean±SD). BD = Becton Dickinson. *p < 0.05; **p < 0.01.

Fig. 1. Immunoperoxidase stain of CD45RA-positive cells (a) and CD45RO-positive cells (b; 1/4A nephropathy grade III). × 150.

References
Sanders ME, Makgoba MW, Sharrow SO, Ste-phy D, Springer TA, Young HA, Shaw S: Human memory T lymphocytes express increased levels of three cell adhesion molecules (LFA-3, CD2, and LFA-1) and three other molecules (UCHLI, CDw29, and Pgp-1) and have enhanced IFN-γ production. J Immunol 1988; 140:1401-1407.