Detection of DNA Polymerase-Alpha-Positive Cells in the Glomeruli from Patients with IgA Nephropathy

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Dear Sir,

A study on the detection of DNA polymerase- α -positive cells in the glomeruli of patients with IgA nephropathy is described. It is generally considered that the DNA polymerase- α -positive cells showed G₁S and G₂ stages of nuclei as well as the M stage of cytoplasm in various types of proliferative disorders and malignant tumors [1, 2]. Renal biopsy specimens were obtained from 8 patients with IgA nephropathy, 4 patients with membranoproliferative glomerulonephritis (MPGN) and 4 patients with chronic diffuse proliferative glomerulonephritis without IgA deposition (PGN). The histopathological injuries of IgA nephropathy were classified as follows [3]: grade I ('minimal') minimal thickening of the mesangial areas, grade II ('slight') slight thickening of the mesangial areas with mild mesangial cell proliferation, grade III ('moderate') diffuse mesangial thickening with mesangial cell proliferation, and grade IV ('advanced') changes observed in grade III associated with capsular adhesion, fibrocellular crescents, glomerular hyalinosis and/or sclerosis. Mammary and rectal carcinomatous tissues, and malignant lymphoma were used as positive controls in this study. Average duration from the discovery of abnormal urinalysis to renal biopsy in patients with IgA nephropathy was 37.6 months, while that in patients with other glomerular diseases was 30.1 months. None of these patients showed serum creatinine levels higher than 1.5 mg/dl. Detection of DNA polymerase- α -positive cells was performed using a peroxidase-antiperoxidase method (MBL kit, 8188, Medical and Biological Laboratory, Nagoya, Japan) [4]. Mouse monoclonal anti-DNA polymerase- α -antibody (CL 22-2-42B :MBL) was used as the first antibody in this method. It was demonstrated that DNA polymerase- α -positive cells were not observed in the glomeruli from patients with all stages of IgA nephropathy and PGN, although they were detected markedly in the nuclei and/or cytoplasm of mammary and rectal carcinomatous tissues, and malignant lymphoma. DNA polymerase- α -positive cells were scattered in the glomeruli of all 4 patients with MPGN, presumably due to more prominent proliferation of mesangial and/or

endothelial cells in patients with MPGN than in patients with IgA nephropathy and PGN. However, there was no significant difference in the duration of the clinical course among the patients with IgA nephropathy, PGN and MPGN. It is concluded that the proliferative cells in the glomeruli detected by light microscopy showed a resting stage of the nuclei in patients with IgA nephropathy at the time of renal biopsy.

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