Correlation between Glomerular Injuries and the Existence of Cytokines in Glomeruli of Patients with IgA Nephropathy

Y.	Yoshimi	Tsushima ^a
Y.	Yasuhiko	Tomino ^a
M.	Masahiko	Shimizu ^a
T.	Takao	Kuramoto ^a
H.	Hikaru	Koide ^a
K.	Kazuhiko	Eguchi ^b
H.	Hideto	Sakai ^b

^aDivision of Nephrology, Department of Medicine, Juntendo University School of Medicine, Tokyo; ^bDepartment of Internal Medicine, School of Medicine, Tokai University, Isehara, Japan

Yasuhiko Tomino, Department of Medicine, Juntendo University, 2-1-1 Hongo, Bunkyo-Ku, Tokyo 113 (Japan)

Dear Sir,

We attempted to determine glomerular injuries and the existence of various cytokines in the glomeruli of 19 patients with IgA nephropathy. It is generally considered that the paracrine and/or autocrine stimulation of cytokines might influence glomerular injuries in patients with chronic glomerulonephritis including IgA nephropathy. Antihuman IL-1, IL-2, IL-3 and platelet-derived growth factor (PDGF) AA and BB antisera were used in the immunofluorescence. These antisera were purchased from Genzyme Corporation, Boston, Mass., USA. Histopathologic changes in this disease were divided into two groups, i.e. mild and advanced stages according to our previous classification [1]. Mesangial cell proliferation, sclerosis and/or crescent formation in glomeruli were marked in the advanced stage as described previously [1]. The results of this study are summarized in table 1. Positive staining of IL-3 and PDGFAA was observed in 3 (42.9%) and 4 (57.1%) out of 7 patients with advanced-stage IgA nephropathy. IL-1, IL-2 and PDGFBB were observed in glomeruli of such a stage. However, the positive staining of IL-2, IL-3 and PDGFAA was observed in only 1 (8.3%), 2 (16.7%) and 1 (8.3%), respectively, out of 12 patients with mild-stage IgA nephropathy. No staining of IL-1 and PDGFBB in glomeruli was observed in the mild stage.

We already reported a significant correlation between the accumulation of cells positive for OKT4 (helper/inducer T cells), OKT8 (suppressor/cytotoxic T cells) and OKM1 (monocytes and null cells) in glomeruli and the degree of glomerular proliferation in patients with IgA nephropathy [2]. We also detected accumulation of platelets, Tac-positive (activated T) cells and polymorphonuclear cells in glomeruli of advanced-stage IgA nephropathy [3-5]. It appears that the glomerular proliferative cells, mainly mesangial cells and endothelial cells and/or infiltrative T cells, monocytes or platelets might produce such cytokines and influence the glomerular injuries in patients with IgA nephropathy.

References

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Table 1. Positive staining of various cytokines in glomeruli of patients with IgA nephropathy