Correlation between Tubulointerstitial Changes and Prognosis in Patients with Primary Membranous Nephropathy

H.	Honggang	Wang
Y.	Yasuhiko	Tomino
M.	Mitsumine	Fukui
I.	Isao	Shirato
Y.	Yutaka	Yaguchi
I.	Isao	Ebihara
M.	Minoru	Kubota
S.	Shuei	Nakayama
H.	Hikaru	Koide

Division of Nephrology, Department of Medicine, Juntendo University School of Medicine, Bunkyo-Ku, Tokyo, Japan

Yasuhiko Tomino, MD, Associate Professor, Division of Nephrology Department of, Medicine, Juntendo University School of Medicine, 2-1-1 Hongo, Bunkyo-ku, Tokyo 113 (Japan)

Dear Sir,

Several investigators reported the close association of hypertension and tubulointerstitial changes in patients with primary membranous nephropathy [1,2]. Recently, we suggested that active treatment with corticoste-roid is beneficial for patients with primary membranous nephropathy [3]. However, it is difficult to determine whether only tubulointerstitial changes are correlated with the prognosis in such patients. We attempted to determine the relationship between the tubulointerstitial changes and the levels of urinary protein or serum creatinine (s-Cr) at the time of renal biopsy and the final follow-up in 19 patients with primary membranous nephropathy not associated with hypertension. Light-and electron-microscopic examinations and immunofluorescence were performed on renal biopsy specimens as described previously [3]. All patients were divided into three groups, i.e., mild, moderate and advanced stages, according to semiquantitative scoring of the tubulointerstitial lesions detected by

light microscopy. The observation periods varied from 30 to 122 months (mean 72). Levels of urinary protein and s-Cr were measured at the time of renal biopsy and final follow-up in our outpatient clinic. The levels of urinary protein in the mild or moderate stage at the time of final follow-up were significantly lower than those at the time of renal biopsy ($p < 0.01$). The levels of urinary protein in the advanced stage at the time of final follow-up were significantly higher than those at the time of renal biopsy ($p < 0.01$). However, there were no significant differences in the levels of s-Cr at the two times in all stages. Patients who showed an advanced stage of tubulointerstitial changes did not progress to end-stage renal failure. Hypertension was not observed during the clinical course in any of these patients. There was

no significant difference in the observation periods, glomerular injuries or treatment among these stages (table 1). Two hypertensive patients in the moderate stage excluded from this study progressed to chronic renal failure in our clinic. It appears that not only tubulointerstitial changes influence renal function, i.e., serum creatinine levels, in the long-term observation of patients with primary membranous nephropathy.

References

Wehrmann M, Bohle A, Bogenschutz O, Eissele R, Freisleder A, Ohlschlegel C, Schumm G, Batz C, Gartner H-V: Long-term prognosis of chronic idiopathic membranous glomerulonephritis. *Clin Nephrol* 1989;31:67-76. Abe S, Amagasaki Y, Iyori S, Konishi K, Kato E, Sakaguchi H: Significance of tubulointerstitial lesions in biopsy specimens of glomerulonephritic patients. *Am J Nephrol* 1989;10:30-37. Funabiki K, Tomino Y, Shirato I, Yoshida M, Koide H: Increased remission of early stage membranous nephropathy on long-term treatment with corticosteroid. *Jpn J Nephrol* 1992; 34:997-1001.

mild (n=7)

6:1

46.6 ± 14.0

70.3±28.3

1.1 + 0.3

1.0+0.2

110+17/77+13

109+17/78+12 422.9+181.9 116.6+83.5*

Table 1. Clinical data of patients with membranous nephropathy; *p < 0.01

Sex. M;F

Age, years

Follow-up period, months

s-Cr, mg/dl

Blood pressure, mm Hg

Urinary protein, mg/dl

at biopsy

at final follow-up

at biopsy

at final follow-up

at biopsy

at final follow-up

Stage of tubulointerstitial changes

moderate (n =7)

5:2

38.7 + 15.6

76.1 ± 20.6

0.9 ± 0.2

0.8 + 0.3 114+18/80+12 112+16/81 + 11 501.0+317.7 16.5+11.9*

advanced (n=5)

5:1

54.4+6.4

64.0+22.4 1.0+0.2 0.9 + 0.2 111 + 14/75+15 115+12/79+11
323.0+188.3
709.4+208.4*