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Clinical and histopathologic characteristics of adult-onset minimal change disease in elderly patients

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Objectives: Minimal change disease (MCD) is less common in adults than children and adolescents, and elderly MCD patients are much uncommon. This study analyzed the clinical and histopathological characteristics of biopsy-proven elderly MCD patients and compared with those of non-elderly patients.

Methods: This is a retrospective study using a kidney biopsy registry data from seven university hospitals in South Korea. Adults with nephrotic syndrome diagnosed as MCD were included (n = 115) and stratified according to age; non-elderly group (age 18 – 59 years) and elderly group (age 60 – 84 years). Clinical data and renal histopathological findings were compared between the non-elderly group and elderly group.

Results: Elderly patients comprised 31.3% (n = 36) of adult MCD patients. Elderly MCD patients had significantly lower estimated glomerular filtration rate than the non-elderly group (80.9 ± 32.7 ml/min/1.73m² vs. 116.2 ± 38.6 ml/min/1.73m², $P < 0.001$). The amount of proteinuria was not different between the elderly and non-elderly group (7.2 ± 4.9 g/day vs. 6.4 ± 4.6 g/day, $P = 0.37$). Global glomerulosclerosis ($6.3 \pm 8.8\%$ vs. $2.2 \pm 6.3\%$), tubulointerstitial mononuclear cell infiltration (55.6% vs. 29.1%), tubular atrophy (44.4% vs. 21.5%), acute tubular necrosis (25.0% vs. 8.9%) and tubular casts (30.6% vs. 11.4%) were significantly more common in the elderly group than the non-elderly group (all $P < 0.05$). The mesangial or vascular changes or interstitial fibrosis were not different between the two groups. The use of renin-angiotensin-aldosterone system inhibitors and immunosuppressants including corticosteroids and cyclosporine was not different between the two groups

Conclusions: Elderly MCD patients demonstrated more chronic glomerular changes and acute tubular injury lesions than the non-elderly MCD patients, which may have contributed to lower glomerular filtration rates