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Evaluating the Efficacy of Immunosuppressive Treatment in Elderly Patients Following Kidney Biopsy

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Objectives : With increasing life expectancy, the need for kidney biopsy to guide treatment in kidney disease is growing. However, concerns about immunosuppressant (IST) risks and treatment efficacy lead many clinicians to opt for conservative management in elderly patients. This study evaluated clinical outcomes based on IST treatment decisions following kidney biopsy.

Methods : Elderly patients (≥ 60 years) were divided into two groups based on IST use. Propensity score matching (PSM) was performed to adjust for baseline differences. Primary outcomes included a 50% decline in estimated glomerular filtration rate (eGFR), initiation of kidney replacement therapy (KRT), and mortality. Cox regression analysis identified predictors of clinical outcomes.

Results : A total of 318 patients were matched, with a median follow-up of 22 months. Membranous nephropathy (MN) was the most common diagnosis (21% in the treatment group vs. 18% in the non-treatment group). The incidence of a 50% decline in eGFR (8.8% vs. 12%, $p=0.4$), and mortality (10% vs. 4.4%, $p=0.051$) did not significantly differ between groups. However, the risk of end-stage kidney disease (ESKD) was lower in the treatment group (9.4% vs. 17%, $p=0.047$), with this trend persisting in long-term follow-up (ESKD $p=0.023$, mortality $p=0.47$). Cox regression showed that significant predictors of ESKD included systolic blood pressure (HR=1.03; 95% CI, 1.00-1.05; $p=0.032$), eGFR (HR = 0.96; CI, 0.94-0.99; $p=0.001$), urine protein-to-creatinine ratio (HR=1.04; 95% CI, 1.01-1.07; $p=0.022$), and global glomerulosclerosis (HR=1.02; CI, 1.00-1.04, $p=0.027$). Additionally, mortality predictors included age (HR=1.15; 95% CI, 1.07-1.24; $p<0.001$), calcium levels (HR=0.38; 95% CI, 0.16-0.91; $p=0.031$), and wire-loop formation in the capillary walls (HR=5.16; 95% CI, 2.27-11.7; $p<0.001$).

Conclusions : After PSM, the incidence of major renal events was higher in the non-treatment group, while mortality did not differ. These findings suggest that IST treatment may improve renal outcomes in appropriately selected elderly patients without increasing mortality.

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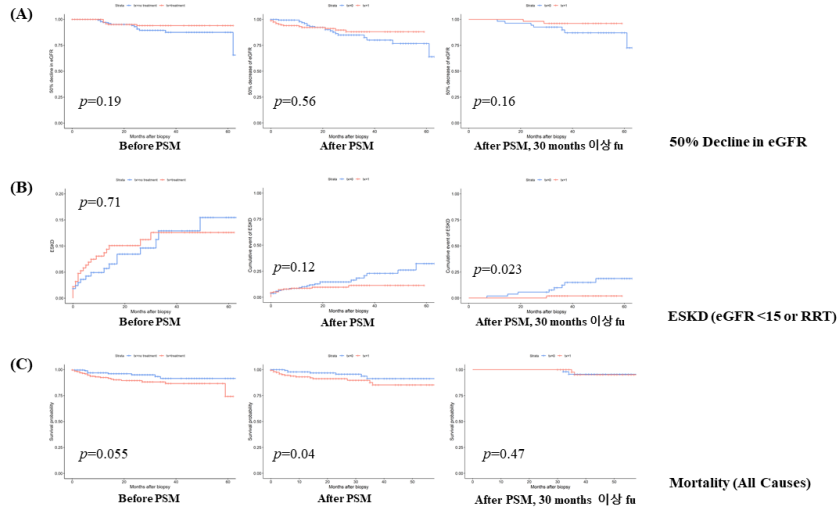


Figure 1.