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Native kidney biopsy in older adults are not at an increased risk of complications – a single center study in a multi-ethnic Southeast Asian cohort

Chelsea Chia[1], Gek Cher Chan[1], Boon Wee Teo[2]
[1]Department of Internal Medicine - Nephrology, NUH, Singapore
[2]Department of Yong Loo Lin School of Medicine, National University Singapore, Singapore

Objectives: With an ageing population, kidney biopsy patients are increasingly older with multiple comorbidities. We evaluated the complications and outcomes of death and progression to end-stage kidney failure (ESKF) in 1 year of adult native kidney biopsy in a multi-ethnic Southeast Asian cohort.

Methods: This was a single center retrospective study of adult patients who underwent native kidney biopsy between January 2017 to December 2019. Univariate analysis was performed comparing clinicodemographic parameters between age groups. Primary outcomes of ESKF and death within 1 year of biopsy and secondary outcome of rate of complication between groups was adjusted with propensity-score analysis to account for baseline differences between older (>65 years) and younger age patients (<65 years). Complications were defined as bleeding requiring blood transfusion or intervention.

Results: Older patients accounted for 70 of 343 (20.4%) native kidney biopsies (median age=52 years; IQR 38-63). Older adults had more hypertension (p <0.001), type 2 diabetes mellitus (p = 0.001), malignancy (p < 0.001) but fewer autoimmune conditions such as systemic lupus erythematosus (p=0.001). A higher proportion of younger patients (<65 years) were on oral steroids (p=0.005), mycophenolate mofetil (p=0.002), and hydroxychloroquine (p=0.001).
On the unadjusted and propensity score analysis, there was no difference in younger or older patients for likelihood of complications and rate of progression to ESKF, composite outcome of death and ESKF, and doubling of serum creatinine at 1 year after biopsy. There was a significantly higher all-cause 1-year mortality in older patients after biopsy compared to younger patients (OR 15.011, 95% CI: 1.700-132.524, p=0.015).

Conclusions: Older patients generally do not have kidney disease with a cause amenable to immunosuppression and overall survival rates are shorter. Our study also finds that kidney biopsy in older adults are not at a higher complication rate, progression to ESKF, or mortality when compared to younger adults.

Unadjusted and Propensity-score adjusted analysis of clinical outcomes after native renal biopsy amongst different age groups