**Role of histopathological findings in predicting rapid Progression of Biopsy-proven Diabetic kidney disease**

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**Background:**A significant proportion of patients with diabetic kidney disease (DKD) progresses very rapidly

**Objective**:To determine if renal histopathological parameters in addition to clinical characteristics can predict rapid progression to end-stage kidney disease (ESKD).

**Method:**This retrospective study involved 49 biopsy-proven DKD patients from January 2018 to 2022. Patients with less than 6 months of follow-up and CKD stage 5 were excluded.The primary outcomes were rapid progression and progression to ESKD, with rapid progression defined as an eGFR decline of >10 mL/min/1.73 m²/year. The study analyzed correlations between histopathological factors, clinical parameters, and rapid progression. Kaplan-Meier curves and Cox regression identified independent risk factors for progression to ESKD

**Results:**In a median follow-up of 1.6 years, 57% of patients were rapid progressors with a median eGFR decline of -21 mL/min/1.73 m²/year, while 42.9% were non-progressors with a decline of -5 mL/min/1.73 m²/year. Among progressors, 60.2% progressed to ESKD. Global glomerular sclerosis (class 4) was significantly associated with rapid progression (p=0.03). Although IFTA, interstitial inflammation, and arteriosclerosis scores were not significantly linked to rapid progression(p=>0.05), higher IFTA score of 3 were observed in rapid progressors. Clinically, hypertension, HbA1c, and severe proteinuria were associated with rapid progression. Cox regression identified global glomerular sclerosis (HR 1.1, CI 1.0-1.4, p=0.04) and severe proteinuria (HR 1.6, CI 1.0-2.1, p=0.01) as independent risk factors for progression to ESKD.

**Conclusion:** Rapid eGFR decline was more common in patients with hypertension, high HbA1c, severe proteinuria, and glomerular lesions.Severe proteinuria and global glomerular sclerosis were independently linked to rapid progression to ESKD