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"Beyond Proteinuria - Unlocking the Enigma of Diabetic Kidney Disease": A Retrospective Study Exploring the Clinical Characteristics and Progression of Nonproteinuric Diabetic Kidney Disease

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Objectives : This study aims to characterize the clinical, laboratory, and histopathologic features in Non proteinuric -DKD and to compare them with proteinuric DKD (P-DKD) in Type II Diabetics.

Methods : This is a retrospective, single centre observational, cohort study done over 5 years from January 2011 to December 2015 in the Department of Nephrology of a tertiary care centre in South India. A total of 538 patients with renal biopsy-proven DN in our center were retrospectively recruited in the current study. Their baseline demographic and clinical data including serum creatinine and proteinuria were recorded. The P-DKD group consisted of patients with 24-hour urinary protein excretion of more than 500 mg, with or without a serum creatinine level of 1.5 mg/dl or higher. The study then proceeded to evaluate and compare demographic, clinical, histopathological, and laboratory features between both groups.

Results : The demographic profile in both groups was comparable. The mean age (in years) of the study population was 53 years with an SD of 9.3 years, and 30% of the population were women. Among the 538 patients, 75% (403 patients) were proteinuric, and 25% (135 patients) non proteinuric. Clinical symptoms like pedal edema were more frequent in the P-DKD group compared to the NP-DKD group. The duration of diabetes was higher in the P-DKD group. The mean creatinine at biopsy was 2.13mg/dl and 3.05mg/dl in the P-DKD and NP-DKD group respectively (p value – 0.03), which showed that in the absence of Proteinuria, the patients of DKD were diagnosed late. Despite the higher GFR at diagnosis, the rate of progression to CKD Stage G5 was faster in the P-DKD Vs NP-DKD group (37±6.5 months) Vs (48.5 ± 8.4 months).

Conclusions : NP-DKD patients had fewer classic Diabetic Nephropathy features on biopsy, severe vascular changes, were diagnosed at a lower eGFR, yet had better renal outcomes than P-DKD.

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RESULTS:

• BIOPSY FINDINGS :

	P – DKD (n = 403)	NP – DKD (n = 135)	P VALUE
GBM thickening	266(66%)	105(78%)	0.08
Mesangial expansion	342(85%)	100(74%)	0.23
%Glomerulosclerosis	62±12%	45±9.2%	0.03
Mean IFTA %	42±5.6	58±8.4	0.02
Arteriosclerosis	274(68%)	105(78%)	0.52
Arteriolar Hyalinosis	294(73%)	104(77%)	0.76

• PROGRESSION:



	P – DKD	NP – DKD	P VALUE
Mean duration to ESKD – eGFR <15ml/min/1.73m ² (months)	37±6.5	48.5 ± 8.4	0.03