

Abstract Submission No.: A-0668

Prevalence of Chronic Kidney Disease in Adults with Type 2 Diabetes Mellitus in Mongolia

Suvd Bukhbat¹, Erdenekhand Tsend-Ayush¹, Bilguun Erdenechuluun³, Batjargal Baasandorj³, Saran Tserensodnom³, Baljinyam Tuvshinjargal², Enkhtuya Jambaldorj², Ariunaa Togtokh², Baigalmaa Evsanaa¹

¹Department of Internal Medicine-Nephrology, Intermed Hospital, Mongolia

²Department of Internal Medicine, Intermed Hospital, Mongolia

³Department of Nephrology, School of Medicine, Mongolian National University of Medical Sciences, Mongolia

Objectives : Assess the risk and prevalence of CKD in adults with type 2 diabetes mellitus.

Methods : We retrospectively collected data from 300 patients who visited outpatient department of Intermed hospital from January 2021 to December 2023. Differences in patient characteristics, risk factors, medications among risk for CKD outcomes were studied using chi-square test for categorical variables, and one-way ANOVA or Kruskal Wallis for continuous variables. The threshold for statistical significance is set at a level of P < 0.05. Statistical analysis was performed using STATA version 17.

Results : Mean age was 53.5±11.5; 69% males; duration of diabetes - 8.69 ± 6.9 years, mean BMI - 28.5 ± 4.98 kg/ m²; 120 (40%) patients had obesity, 104 (34.7%) were overweight; mean HbA1c, 8.62% (5.2% to 18.6%); 44.6% had hypertension; 46.1% had high TC; 62.7% - high LDL-cholesterol; 90.9% - low HDL-cholesterol; and 53.7% - high TG. The CKD risk outcomes were as follows: low risk 51%; moderate risk 31.4%; high risk 11%; and very high risk 6.6%. Forty nine percent had CKD, 15.5% of them had eGFR<60 ml/min per 1.73m² and 40.8% had ACR>3mg/mmol. Patients with moderate or high/very high risk of CKD tended to be older, had a longer duration of diabetes, low HDL (P<0.001 for all). In terms of complications, patients in the moderate and high/very high-risk groups were more likely to have neuropathy and CVD (P<0.001 for all). The major risk factor for CKD was duration of DM (OR 1.06, 95% CI, 1.0 to 1.1).

Conclusions : The prevalence of CKD was 49% and the major risk factor for CKD was duration of DM in this population.

Characteristics of Patients by CKD Risk Categories (Low, Moderate and High:Very High).png

Table 1. Characteristics of Patients by CKD Risk Categories (Low, Moderate and High/Very High)

Characteristic	All (n=245)	Low risk (n=125)	Moderate risk (n=77)	High risk (n=27)	Very high risk (n=16)	P value
Age (years)	53.8±13.7	51.4±11.0	52.6±11.5	59.7±8.4	61.5±10.3	0.0001
Duration of diabetes (years)	9.1±6.9	7.1±6.2	9.6±6.9	13.3±7.8	14.9±4.7	0.0001
Body mass index (kg/m ²)	28.7±5.0	28.7±4.9	29.1±5.3	27.5±4.6	29.2±4.7	0.1540
HbA1c (%)	8.6±2.1	8.5±2.1	8.6±1.9	9.1±1.9	8.6±2.7	0.6702
Total cholesterol (mmol/L)	5.2±1.7	5.3±1.8	5.2±1.9	4.8±1.0	4.6±2.0	0.4539
HDL cholesterol (mmol/L)	1.17±0.46	1.20±0.49	1.15±0.47	1.15±0.36	1.04±0.31	0.0210
LDL cholesterol (mmol/L)	6.9±2.36	8.49±2.84	5.41±1.83	6.78±1.88	2.49±1.28	0.7367
Triglycerides (mmol/L)	2.81±1.14	2.89±3.69	2.73±1.17	2.69±1.97	2.5±1.36	0.0050

Characteristics of Patients by CKD Risk Categories (Low, Moderate and High:Very High).png

Figure 1. Distribution by GFR and albuminuria categories

GFR categories			Albuminuria category			Total
			A1	A2	A3	
			Normal to Mildly increased <3mg/mmol n(%)	Moderately increased 3-30mg/mmol n(%)	Severely increased >30mg/mmol n(%)	
G1	Normal or high	≥90 ml/min/1.73m2	102 (42.6%)	40 (16.7%)	5 (2.1%)	147 (61.3%)
G2	Mildly decreased	60-89 ml/min/1.73m2	26 (10.8)	27 (11.3%)	5 (2.1%)	58 (24.1%)
G3a	Mildly to moderately decreased	45-59 ml/min/1.73m2	3 (1.2%)	16 (6.7%)	4 (1.7%)	23 (9.6%)
G3b	Moderately to severely decreased	30-44 ml/min/1.73m2	3 (1.2%)	1 (0.4%)	1 (0.4%)	5 (2.1%)
G4	Severely decreased	15-29 ml/min/1.73m2	1 (0.4%)	1 (0.4%)	0 (0%)	2 (0.8%)
G5	Kidney failure	<15 ml/min/1.73m2	1 (0.4%)	1 (0.4%)	3 (1.2%)	5 (2.1%)
Total			136 (56.7%)	86 (35.8%)	18 (7.5%)	240 (100%)