

Supplemental Information

Prevalence of diabetic kidney disease with different subtypes in hospitalized patients with diabetes and correlation between eGFR and LncRNA XIST expression in PBMCs

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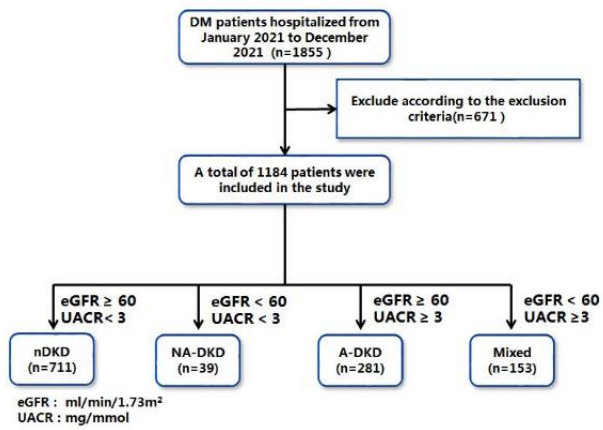


Fig. S1 Flow chart of patients' selection

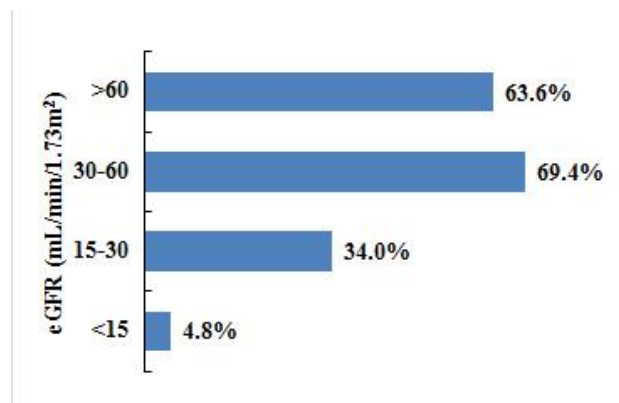


Fig. S2 The rate of the use of SGLT2i or GLP1RA with different eGFR level.

Table S1 Exclusion criteria for study participants

exclusion criteria
1. Patients with severe infection, ulcer of lower extremity or gangrene(n=303).
2. Acute complications in diabetes mellitus such as ketoacidosis, hyperosmolar and hypoglycemia coma (n=35).
3. Endocrine system diseases except DM, including Cushing's syndrome, pheochromocytoma, primary aldosteronism, pituitary hyperfunction or hypofunction, hyperthyroidism (n=86).
4. Patients use of nephrotoxic drugs(n=0).
5. Malignant diseases(n=71).
6. Severe disfunction in liver and kidney or cardiac insufficiency(n=8).
7. Patients younger than 18 years old(n=16).
8. Participants with insufficient UACR or eGFR data (n=68).
9. Include in any clinical drug trials(n=10).
10. Acute Trauma(n=5).
11. Biopsy-proven diagnosis of non-diabetic nephropathy(n=12).
12. A history of renal transplantation or nephrectomy(n=7).
13. Autoimmune diseases except T1DM, such as systemic lupus erythematosus et al.(n=21).
14. Hematologic diseases(n=7).
15. Amputation or paraplegia(n=2).
16. Pregnant women and specific types of diabetes(n=20).

Table S2 The sequences of primers used for RT-PCR

Gene	Forward primer (5'-3')	Reverse primer (3'-5')
β -actin	GGGAAATCGTGCGTGACATTAAGG	CAGGAAGGAAGGCTGGAAGAG
XIST	ACGCTGCATGTGTCCTTAGTAGTC	ATTGGAGCCTCTTATAGCTGTTTG

Table S3 The use of hypoglycemic drug of the study groups.

Medication Use	Overall (n=1184)	nDKD (n=711)	NA- DKD (n=39)	A-DKD (n=281)	Mixed (n=153)	P
Glucose-lowering						
SGLT2i	595 (50.3%)	369 (51.9%)	18 (46.2%)	160 (56.9%)	48 (31.4%)	<0.001
GLP1RA	325 (27.4%)	176 (24.8%)	10 (25.6%)	89 (31.7%)	50 (32.7%)	0.064
SGLT2i+GLP1RA	186 (15.7%)	104 (14.6%)	4 (10.3%)	59 (21.0%)	19 (12.4%)	0.034
Others	450 (38.0%)	270 (38.0%)	15 (38.5%)	91 (32.4%)	74 (48.4%)	0.013

RAAS inhibitors	358 (30.2%)	218 (30.7%)	9 (23.1%)	78 (27.8%)	53 (34.6%)	0.357
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Note: All values are expressed as mean \pm SD or Median (interquartile range).
SGLT2i=Sodium-dependent glucose transporters 2 inhibitors, GLP-1RA =Glucagon-like peptide 1 receptor agonist.

Table S4 24hour Urine biochemical indexes of the study groups.

	Overall (n=1184)	nDKD (n=711)	NA-DKD (n=39)	A-DKD (n=281)	Mixed (n=153)	P
K (mmol/24h)	33.8 (25.2,44.4)	34.3 (25.9,44.7)	25.7 (18.0,39.7) *	32.7 (25.2,44.8)	33.6 (24.4,44.3)	0.024
Na (mmol/24h)	114.5 (76.8,161.7)	117.2 (81.0,162.7)	93.4 (57.8,121.0) *	108.8 (69.9,156.3)	111.2 (77.7,171.4) #	0.01
β_2 -MGU (mg/L)	0.18 (0.07,0.26)	0.17 (0.06,0.18)	0.18 (0.06,0.95)	0.18 (0.07,0.27)	2.35 (0.32,18.08) ***, #	<0.00 1
TP (g/24h)	0.12 (0.08,0.25)	0.09 (0.07,0.12)	0.12 (0.07,0.19)	0.25 (0.14,0.51) ***, ###	1.45 (0.45,4.64) ***, ###	<0.00 1
Albumin (mg/24h)	20 (11,78)	14 (9,20)	14 (8,21)	91 (38,285) ***, ###	874 (157,2953) ***, ###	<0.00 1
CR (μ mol/24h)	10068 (7575,13582)	10358 (8569,14000)	9907 (6659,15748)	9680 (6235,12738) *	9232 (6826,12358) *	0.005

Note: All values are expressed as mean \pm SD or Median (interquartile range).
K=Potassium. Na= Sodium. β_2 -MGU= β_2 -microglobulin. TP=total protein.
CR=Creatinine
vs nDKD : *p<0.05, **p<0.01, ***p<0.001. vs NA-DKD : #p<0.05, ##p<0.01, ###p<0.001

Table S5 The grade of hypertension of the study groups.

Grade	Overall (n=1184)	nDKD (n=711)	NA-DKD (n=39)	A-DKD (n=281)	Mixed (n=153)
non	538 (45.4%)	427 (60.1%)	14 (35.9%)	82 (29.2%)	15 (9.8%)
1	155 (13.1%)	93 (13.1%)	6 (15.4%)	41 (14.6%)	15 (9.8%)
2	223 (18.9%)	98 (13.8%)	9 (23.1%)	76 (27%)	40 (26.1%)
3	267 (22.6%)	92 (13%)	10 (25.6%)	82 (29.2%)	83 (54.2%)

Overall	1183 (100%)	710 (100%)	39 (100%)	281 (100%)	153 (100%)
Z value		Reference	-3.207	-9.303	-13.120
P value (vs nDKD)		-	0.001	<0.001	<0.001
Z value			Reference	-0.839	-5.883
P value (vs NA-DKD)			-	0.397	<0.001

Table S6 Clinical data of female patients with DKD

Characteristics	n=31
eGFR (mL/min/1.73m ²)	73.9±29.72
UACR (mg/mmol)	18.38 (4.83,30.68)
Age (y)	60.55±13.56
Body mass index (kg/m ²)	27.53±7.79
Urea(mmol/L)	6.1 (4.95,8.65)
CR(μmol/L)	74.5 (58.25,99.5)
UA(μmol/L)	364.68±69.89
TG (mmol/L)	1.92 (1.38,2.4)
Total cholesterol (mmol/L)	5.41 (4.58,6.46)
HDL-C(mmol/L)	1.16 (0.97,1.27)
LDL-C(mmol/L)	3.81±1.18
VLDL-C(mmol/L)	0.54 (0.42,0.71)
HbA1c (%)	8.9 (7.3,10.2)

Note: All values are expressed as mean ± SD or Median (interquartile range).

eGFR=estimated Glomerular filtration rate. UACR=Urinary albumin/creatinine. CR=Creatinine. UA= Uric Acid. TG=Triglycerides. HDL-C=High-density lipoprotein cholesterol. LDL-C=Low-density lipoprotein cholesterol. VLDL-C=Very low-density lipoprotein cholesterol. HbA1c= Hemoglobin.