Supplementary materials

Supplementary file 1

Table S1. Baseline Characteristics of Studied Population

	All N=112	Group I (n=62)	Group II (n=50)	P value
Age Mean (SD)	66.77 (11.30)	65.82 (11.71)	67.94 (10.77)	0.3
Gender Male/female (N,%)	88 (78.57%)/ 24 (21.43%)	49 (79.03%) /13 (20.97%)	39 (78%) /11 (22%)	0.9
BMI Median (IQR)	25.65 (24.22-28.25)	26.23 (24.44-29.04)	25 (23.88-27.68)	0.06
Baseline eGFR based stages (N,%)				
Stage 2	10 (8.9%)	4 (6.45%)	6 (12%)	
Stage 3a	39 (34.8%)	21 (33.87%)	18 (36%)	
Stage 3b	35 (31.3%)	23 (37.1%)	12 (24%)	0.5
Stage 4	23 (20.5%)	11 (17.7%)	12 (24%)	
Stage 5	5 (4.5%)	3 (4.84%)	2 (4%)	
Established CKD (for ≥3 months)	80 (71.43%)	47 (75.81%)	33 (66%)	0.25
Smoker (N,%)	22(19.64%)	13 (20.9%)	9 (18%)	0.7
DM (N,%)	96 (85.71%)	54 (87.1%)	42 (84%)	0.6
HTN (N,%)	71 (63.39%)	41 (66.1%)	30 (60%)	0.5
Heart failure (NYHA: III, IV) (N,%)	60 (53.57%)	30 (48.4%)	30 (60%)	0.2
CVD (N,%)	50 (44.64%)	26 (41.9%)	24 (48%)	0.5
Liver disease (N,%)	3 (2.68%)	3 (4.84%)	0	0.3
Previous stroke (N,%)	15 (13.39%)	11 (17.7%)	4 (8%)	0.2
Dyslipidemia (N,%)	45 (40.18%)	27 (43.55%)	18 (36%)	0.4
Medications (N,%)				
Previous statins use	103(91.96%)	56 (90.3%)	47 (94%)	0.7
Previous use of ACEI/ARBs	41 (36.61%)	23 (37.1%)	18 (36%)	1
Previous use of SGLT2	15 (13.39%)	8 (12.9%)	7 (14%)	1
Cause of ICU admission (N,%)				
ACS	101 (90.17%)	54 (87.09%)	47 (94%)	
Post TAVI	9 (8%)	6 (9.7%)	3 (6%)	0.2
Pulmonary embolism	1 (0.89%)	1 (1.61%)	0	
VT storm	1 (0.89%)	1 (1.61%)	0	
Indication of 1st contrast (N,%)				
Single vessel PCI	78 (69.64%)	47 (75.8%)	31(62%)	
Coronary angiography	24 (21.42%)	8 (12.9%)	16 (32%)	0.3
CT pulmonary angiography	1 (0.89%)	1 (1.61%)	0	
TAVI + peripheral angiography	9 (8.03%)	6 (9.7%)	3 (6%)	
Indication of 2nd contrast (N,%)				
Multivessel PCI (CABG refused by family or surgeons)	7(6.25%)	0	7 (14%)	
Single vessel PCI	40 (35%)	0	40 (80%)	-
CT peripheral angiography & stenting (Retroperitoneal haemorrhage)	3 (2.7%)	0	3 (6%)	
Laboratory tests				
Baseline Creatinine (mg/dl)	1.61 (1.5-2.19)	1.62 (1.5-2.24)	1.6 (1.5-2.06)	0.9
Baseline eGFR (ml/min/1.73m^2)	42 (29.5-53.5)	42 (30-53)	42 (29-54)	0.8
Hemoglobin (gm/dl) Mean (SD)	12.43 (2.24)	12.3 (10.7-13.8)	12.6 (11.2-14.1)	0.5
HCT Mean (SD)	37.86 (6.49)	37.37 (6.02)	38.47 (7.04)	0.4
Urea (mg/dl)	51 (33-83)	59 (36.5-87)	45 (31-79)	0.1
Potassium (mEq/L)	4.1 (3.8-4.5)	4.1 (3.8-4.7)	4.1 (3.9-4.5)	0.8
HBA1C %	7.6 (6.2-9.6)	7.4 (6.3-9.6)	8.05 (6.2-9.3)	0.9

	All N=112	Group I (n=62)	Group II (n=50)	P value
Cholesterol (mg/dl)	162 (124-190)	163 (139.2-189.5)	162.4 (119.9-208.8)	0.9
Triglycerides (mg/dl)	90 (66-120)	92 (66-117)	88 (66-123)	0.8

Unless otherwise specified, numerical data are presented as median (IQR)
ACEI: Angiotensin-converting enzyme inhibitor, ACS: Acute coronary syndrome , ARB: Angiotensin receptor blocker, BMI: Body mass index, CABG: Coronary artery bypass graft, CKD: Chronic kidney disease, CVD: Cardiovascular disease, DKA: Diabetic ketoacidosis, DM: Diabetes mellitus, eGFR: Estimated glomerular filtration rate, HbA1c: Glycated hemoglobin, HCT: Haematocrit, HTN: Hypertension, ICU: Intensive care unit, NSTEMI: Non-ST-elevation myocardial infarction, NYHA: New York Heart Association (functional classification), ml: Millilitre, SD: Standard deviation, SGLT2: Sodium-glucose cotransporter-2 (inhibitor), STEMI: ST-elevation myocardial infarction, TAVI: Transcatheter aortic valve implantation, VT: Ventricular tachycardia.

Supplementary file 2

Table S2. Predictors of CKD progression at 3 months in patients with established CKD (N=80)

	OR (95% CI)	P
Age	0.99 (0.94-1.05)	0.8
Gender	1.53 (0.45-5.15)	0.5
BMI	0.91 (0.78-1.06)	0.2
DM	0.56 (0.13-2.43)	0.4
HTN	0.67 (0.21-2.13)	0.5
CVD	1.61 (0.52-4.97)	0.41
Smoking	1.10 (0.27-4.53)	0.89
Baseline CKD stage (overall)	0.49 (0.24-1.01)	0.05
Previous use of SGLT2	1.1 (0.21-5.78)	0.9
Use of ACEI/ARBs	1.21 (0.36-4.02)	0.8
Use of statins	0.68 (0.07-7.01)	0.7
First contrast volume	1 (0.99-1.01)	1
Cumulative contrast volume	0.99 (0.99-1.01)	0.9
CA-AKI post first contrast	1.41 (0.42-4.72)	0.6
CA-AKI post second contrast (multiple exposure group)	0.63 (0.13-2.99)	0.56

ACEI: Angiotensin-converting enzyme inhibitor, ARB: Angiotensin receptor blocker, BMI: Body mass index, CA-AKI: contrast associated acute kidney injury, CKD: Chronic kidney disease, CVD: Cardiovascular disease, DM: Diabetes mellitus, HbA1c: Glycated hemoglobin, HTN: Hypertension, SGLT2: Sodium-glucose cotransporter-2 (inhibitor).

Table S3. Predictors of CKD progression at 6 months in patients with established CKD (N=80)

	Univariable		Multivariable	
	OR (95% CI)	P	OR (95% CI)	P
Age	1.001 (0.96-1.05)	0.8		
Gender	0.77 (0.24-2.44)	0.66		
BMI	0.99 (0.89-1.1)	0.8		
DM	1.01 (0.24-4.23)	1		
HTN	0.35 (0.13-0.97)	**0.04**	0.65 (0.20-2.13)	0.5
CVD	1.42 (0.53-3.80)	0.5		
Smoking	0.95 (0.27-3.37)	0.9		
Baseline CKD stage (overall)	0.33 (0.16-0.67)	**0.002**	0.30 (0.13-0.68)	**0.004**
Previous use of SGLT2	0.63 (0.12-3.20)	0.6		
Use of ACEI/ARBs	1.98 (0.92-4.73)	0.08		
Use of statins	1	0		
First contrast volume	1.001 (0.99-1.01)	0.9		
Cumulative contrast volume	1.001 (0.99-1.01)	0.6		
CA-AKI post first contrast	4.27 (1.48-12.37)	**<0.0001**	6.19 (1.76-21.76)	**0.004**
CA-AKI post second contrast (multiple exposure group)	0.63 (0.13-2.99)	0.56		

ACEI: Angiotensin-converting enzyme inhibitor, ARB: Angiotensin receptor blocker, BMI: Body mass index, CA-AKI: contrast associated acute kidney injury, CKD: Chronic kidney disease, CVD: Cardiovascular disease, DM: Diabetes mellitus, HbA1c: Glycated hemoglobin, HTN: Hypertension, SGLT2: Sodium-glucose cotransporter-2 (inhibitor).

Table S4. Predictors of CA-AKI post second contrast (in Group II only with established CKD, N=33)

	OR (95% CI)	P
Age	1.01 (0.95-1.08)	0.7
Gender	0.67 (0.13-3.53)	0.6
DM	1	-
HTN	0.95 (0.20-4.41)	0.9
Hypotension	1.44 (0.24-8.73)	0.7
Baseline creatinine	2.25 (0.53-9.61)	0.3
Creatinine post first contrast	6.21 (1.14-33.85)	**0.04**
CA-AKI post first contrast	4.8 (0.51-44.96)	0.2
Creatinine pre second contrast	32.46 (1.15-917)	**0.04**
Total contrast volume	1.01 (0.99-1.02)	0.34
Time between first and second contrast	1.003 (0.99-1.02)	0.6

ACEI: Angiotensin-converting enzyme inhibitor, ARB: Angiotensin receptor blocker, BMI: Body mass index, CA-AKI: contrast associated acute kidney injury, CKD: Chronic kidney disease, CVD: Cardiovascular disease, DM: Diabetes mellitus, HbA1c: Glycated hemoglobin, HTN: Hypertension, SGLT2: Sodium-glucose cotransporter-2 (inhibitor).

Supplementary file 3

Table S5. Predictors of decline of eGFR category at 3 months in the whole (112) studied patients

	OR (95% CI)	P value
Age	0.99 (0.96-1.03)	0.8
Gender	0.89 (0.30-2.70)	0.8
BMI	0.94 (0.84-1.06)	0.3
DM	0.58 (0.18-1.86)	0.4
-Baseline HbA1C	0.94 (0.76-1.16)	0.6
HTN	1.03 (0.41-2.61)	0.9
CVD	1.46 (0.60-3.57)	0.4
Smoking	1.03 (0.34-3.14)	0.9
Baseline eGFR based stage (overall)	0.51 (0.31-0.84)	0.009
Stage 2 (reference)	1	
Stage 3a	0.34 (0.08-1.45)	0.1
Stage 3 b	0.30 (0.07-1.29)	0.1
Stage 4	0.1 (0.01-0.64)	0.01
Stage 5	1 (-)	-
-Previous use of SGLT2	0.85 (0.22-3.29)	0.8
-Previous ACEI/ARBs use	1.49 (0.60-3.69)	0.4
-Previous statins use	0.32 (0.08-1.30)	0.1
-First contrast volume	1.004 (0.99-1.01)	0.4
-Cumulative contrast volume	1.002 (0.99-1.01)	0.5
-Interval between first and second contrast (in the multiple exposure group)	0.99 (0.99-1.01)	0.7
CA-AKI post first contrast	7.15 (2.83-17.92)	<0.0001
CA-AKI post second contrast (multiple exposure group)	1.55 (0.44-5.46)	0.6

ACEI: Angiotensin-converting enzyme inhibitor, ARB: Angiotensin receptor blocker, BMI: Body mass index, CA-AKI: contrast associated acute kidney injury, CKD: Chronic kidney disease, CVD: Cardiovascular disease, DM: Diabetes mellitus, HbA1c: Glycated hemoglobin, HTN: Hypertension, SGLT2: Sodium-glucose cotransporter-2 (inhibitor).

Table S6. Predictors of decline of eGFR category at 6 months whole (112) studied patients

	OR (95% CI)	P value
Age	0.99 (0.96-1.03)	0.8
Gender	0.51 (0.17-1.50)	0.2
BMI	1.004 (0.92-1.10)	0.9
DM	1 (0.32-3.13)	1
HTN	0.40 (0.18-0.92)	0.03
CVD	1.76 (0.79-3.95)	0.2
Smoking	1.33 (0.50-3.55)	0.6
Baseline eGFR based stage (overall)	0.49 (0.31-0.77)	0.002
Stage 2 (reference)	1	
Stage 3a	0.63 (0.15-2.53)	0.5

	OR (95% CI)	P value
Stage 3 b	0.67 (0.16-2.74)	0.6
Stage 4	0.05 (0.004-0.48)	0.01
Previous use of SGLT2	1.12 (0.35-3.55)	0.9
Use of ACEI/ARBs	2.09 (0.92-4.73)	0.08
Use of statins	3.94 (0.47-32.81)	0.2
First contrast volume	1.01 (0.99-1.01)	0.2
Cumulative contrast volume	1.001 (0.99-1.01)	0.7
Interval between first and second contrast (in the multiple exposure group)	0.99 (0.97-1.02)	0.8
CA-AKI post first contrast	7.13 (2.83-17.91)	<0.0001
CA-AKI post second contrast (multiple exposure group)	1.56 (0.44-5.47)	0.5

ACEI: Angiotensin-converting enzyme inhibitor, ARB: Angiotensin receptor blocker, BMI: Body mass index, CA-AKI: contrast associated acute kidney injury, CKD: Chronic kidney disease, CVD: Cardiovascular disease, DM: Diabetes mellitus, HbA1c: Glycated hemoglobin, HTN: Hypertension, SGLT2: Sodium-glucose cotransporter-2 (inhibitor).