

# RISK STRATIFICATION ACCORDING TO KDIGO CHRONIC KIDNEY DISEASE GUIDELINE IN KIDNEY TRANSPLANT RECIPIENTS

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## BACKGROUND

In the 2012 Kidney Disease Improving Global Outcomes (KDIGO) guidelines on Chronic Kidney Disease (CKD), kidney transplant (KTx) recipients are defined as having CKD, regardless of their estimated glomerular filtration rate (eGFR). These guidelines also defined stratification of the risk for an adverse outcome based on eGFR and albuminuria classes. However, if such a stratification is suitable in KTx patients was not yet investigated.

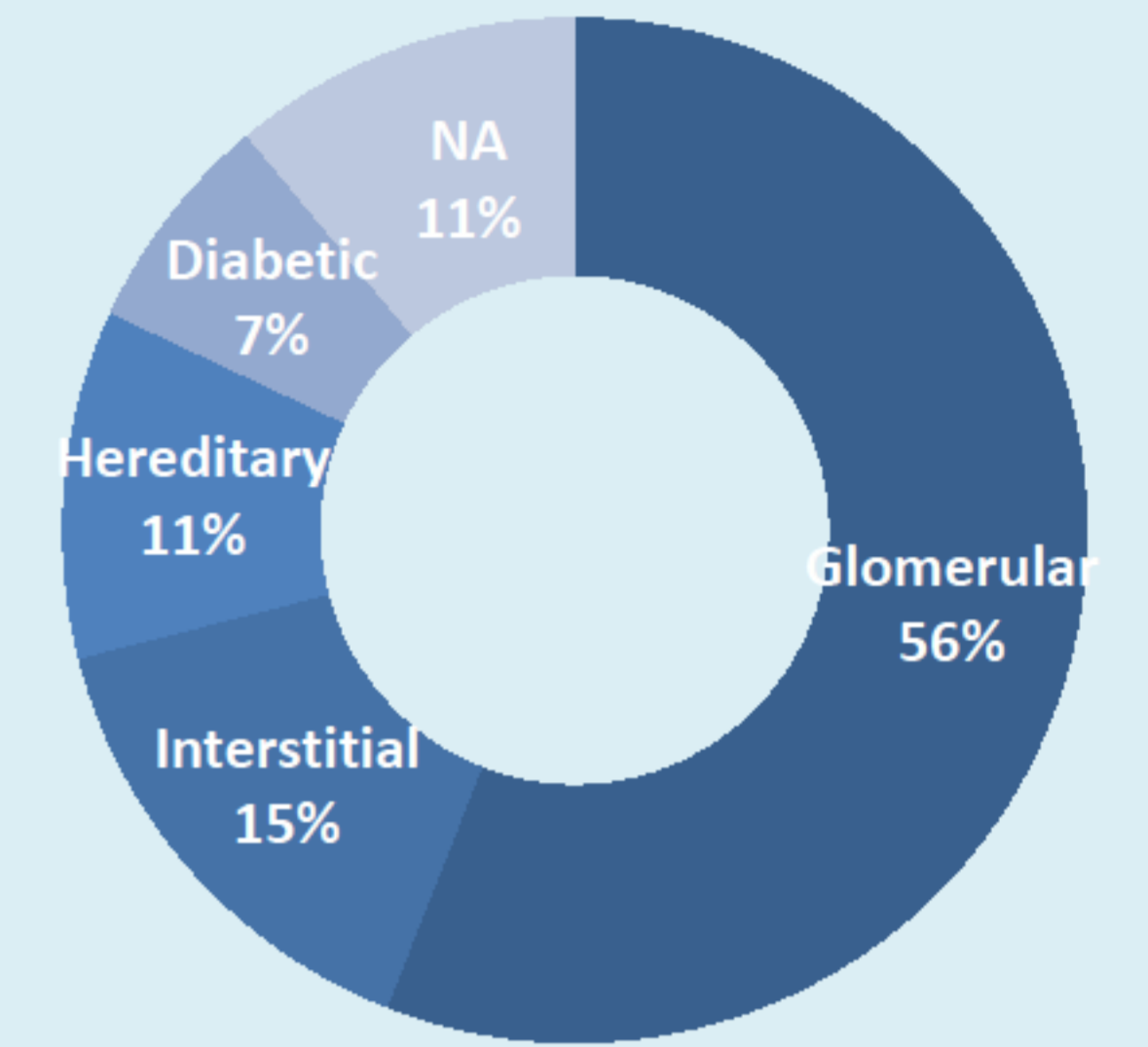
GFR (mL/min) Categories		Proteinuria (mg/day)		
		A1 <150mg	A2 150-500	A3 >500mg
G1	>90	Green	Yellow	Orange
G2	60-89	Green	Yellow	Orange
G3a	45-59	Yellow	Orange	Red
G3b	30-44	Orange	Red	Red
G4	15-29	Red	Red	Red
G5	<15	Red	Red	Red
Low risk (LR)				36%
Moderately increased risk (MIR)				23%
High risk (HR)				23%
Very high risk (VHR)				18%

231 prevalent KTx recipients  
36 [34-48] years, 62% male  
eGFR 53.7 [50.9-56.4] mL/min

Jan 2011

Jun 2013

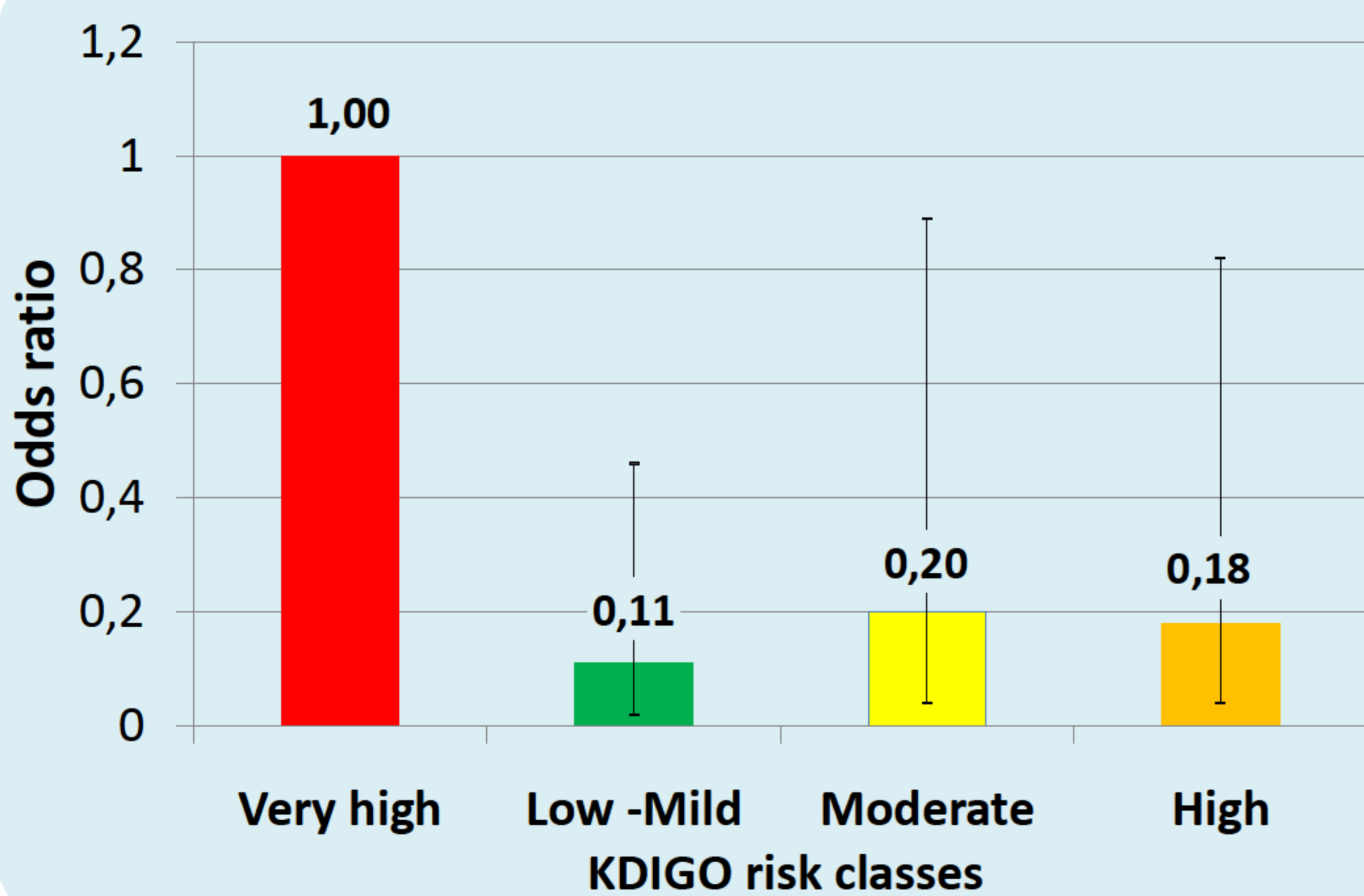
## Primary nephropathies



- Pre-emptive KTx 22%
- Living donors 59%
- Median mismatch 3 [2-4]
- Anti HLA positive 8%
- Anti donor specific HLA 6%
- Calcineurin inhibitors 95%

	ENDPOINT (n=51) >30% decline in eGFR/ Dialysis initiation/death	NO ENDPOINT (n=180)	p
Age (years)	30 [26-33]	37 [35-40]	<0.001
Female (%)	51	35	0.03
Anti-donor specific HLA (%)	18	2	<0.001
Compliance to treatment (%)	80	92	0.02
Smokers (%)	18	6	0.009
Time averaged proteinuria (mg/24h)	874.5 [399.6-1349.3]	258.7 [171.9-345.5]	<0.0001
eGFR slope (mL/min/year)	-3.17 [-4.13 - -2.21]	0.81 [0.45-1.3]	<0.0001

## Predictors of graft failure (multivariable binary logistic regression)



Variable	B	S.E.	Exp(B) (95% CI)	P
Male vs. Female	-1.69	0.53	0.18 (0.04-0.82)	0.001
Cardiovascular events	2.36	0.77	10.66 (2.32-48.94)	0.002
Smoker	2.02	0.76	7.59 (1.69-33.99)	0.008
GFR slope (mL/min per year)	-0.63	0.09	0.52 (0.43-0.64)	<0.001
BKV	1.45	0.72	4.29 (1.03-17.79)	0.044
CMV	0.92	0.55	2.51 (0.85-7.40)	0.095
Age at KTx (years)	-0.04	0.02	0.96 (0.92-1.00)	0.059
BMI at baseline	-0.13	0.07	0.87 (0.76-1.00)	0.064
Constant	3.63	1.74	37.86	0.037

Cox and Snell R<sup>2</sup>=0.42 (χ<sup>2</sup>=126.1; df=11; p<0.001)

## CONCLUSIONS

- KTx recipients are group of CKD patients with unique comorbidities which impact survival and could compound factors used in KDIGO risk stratification.
- Risk group stratification in KTx patients according to KDIGO guideline on CKD may prove useful, but further studies on large cohorts are needed for validation.

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N) Renal Transplantation. N2) Clinical epidemiology of renal transplantation.

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