

Supplementary Material

The role of Urinary Biomarkers in Cirrhotic Patients with Acute Kidney Injury:

Multicenter, Prospective Cohort Study

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I. Supplementary Tables

Supplementary Table S1. Logistic regression analysis for AKI recurrence in patients with AKI

Variable	Univariable		Multivariable	
	HR (95% CI)	p-value	HR (95% CI)	p-value
Age (year)	0.999 (0.984-1.014)	0.896	1.004 (0.985-1.023)	0.699
Male (vs. female)	1.29 (0.821-2.026)	0.269		
BMI (kg/m ²)	1.027 (0.982-1.074)	0.25	1.025 (0.993-1.058)	0.130
Viral etiology (vs. non-viral)	1.786 (1.015-3.143)	0.044		
Diabetes	1.275 (0.832-1.954)	0.265		
Prior use of diuretics	0.971 (0.631-1.496)	0.895		
Prior use of beta blocker	0.93 (0.588-1.471)	0.756		
Ascites	0.932 (0.592-1.467)	0.76		
Hepatic encephalopathy	1.871 (1.105-3.169)	0.02		
Child-pugh score	1.082 (0.985-1.188)	0.101		
Child-pugh class B-C vs. class A	1.713 (0.883-3.322)	0.111		
MELD score	1.011 (0.987-1.035)	0.375		
Systolic blood pressure	0.997 (0.986-1.008)	0.554	0.993 (0.984-1.001)	0.102
Diastolic blood pressure	0.996 (0.98-1.012)	0.626		
Mean blood pressure	0.996 (0.981-1.011)	0.574		
Heart rate	1.001 (0.992-1.011)	0.786		
WBC	1 (1-1)	0.328		
Hemoglobin	0.977 (0.896-1.066)	0.604		
Platelet	0.999 (0.996-1.003)	0.771		
Hs-CRP	1.07 (1.018-1.124)	0.007		
Albumin	0.884 (0.648-1.207)	0.439		
BUN	1.01 (1-1.02)	0.04		
Total bilirubin	0.988 (0.964-1.011)	0.3		
AST	1.001 (1-1.002)	0.201		
ALT	1.004 (1.002-1.006)	0.001		
Serum sodium	0.96 (0.927-0.995)	0.025		
Creatinine	0.911 (0.503-1.652)	0.759		
Prothrombin time (INR)	1.278 (0.938-1.741)	0.12		
Urine NAG	0.995 (0.987-1.003)	0.223		

Supplementary Table S2. Urine NAG depending upon liver disease severity

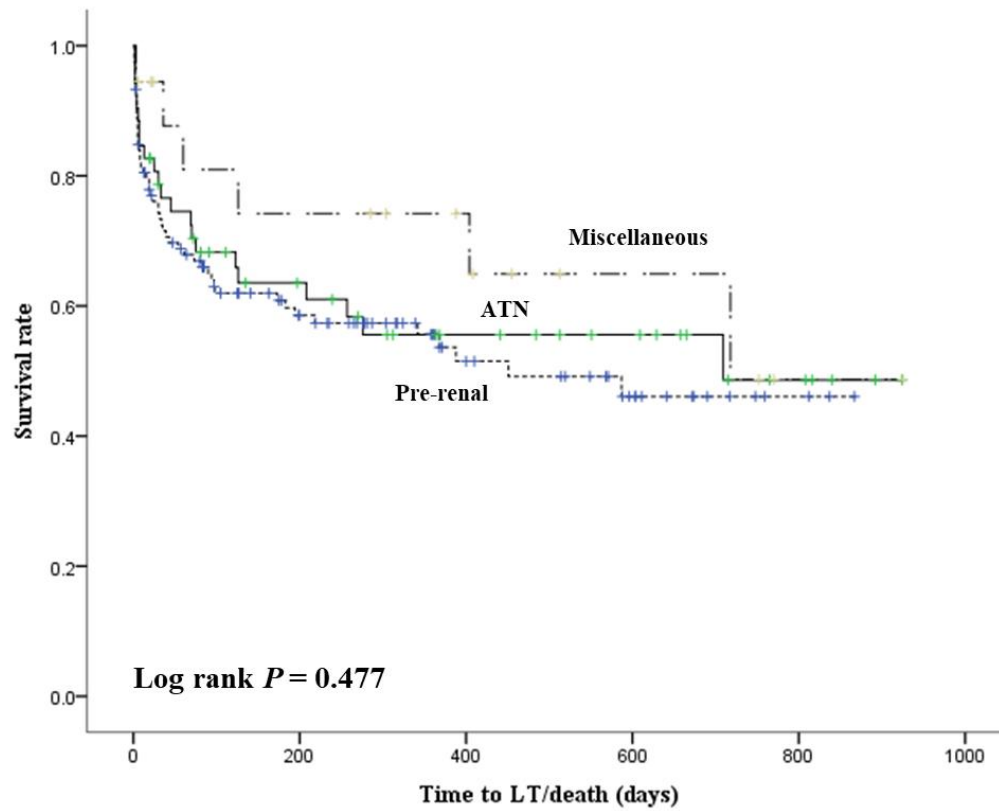
Category	Variable	In 90 days		
		LT/Death	Alive	p-value
Total	N	95	167	
	urine NAG	14.19 (9.79-20.56)	8.08 (6.08-10.76)	0.005
MELD < 24	N	20	107	
	urine NAG	8.8 (2.51-30.86)	5.5 (3.92-7.72)	0.044
MELD ≥ 24	N	75	60	
	urine NAG	16.11 (11.38-22.82)	16.06 (9.92-26.01)	0.69
Ascites : none to mild	N	37	94	
	urine NAG	14.05 (8.69-22.74)	5.68 (3.76-8.58)	0.012
Ascites : moderate to severe	N	58	73	
	urine NAG	14.27 (8.35-24.39)	12.74 (8.86-18.33)	0.253
Child-pugh class : A and B	N	14	102	
	urine NAG	9.06 (1.7-48.39)	5.42 (3.79-7.76)	0.018
Child-pugh class : C	N	81	65	
	urine NAG	15.33 (10.82-21.72)	15.14 (9.76-23.48)	0.866

Supplementary Table S3. Logistic regression analysis for response to terlipressin therapy in patients with HRS-AKI

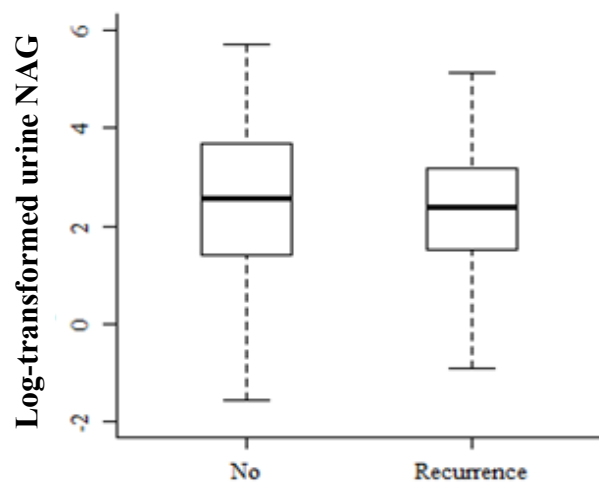
Variable	Univariable		Multivariable	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Age (year)	0.982 (0.942-1.022)	0.377	0.983 (0.941-1.025)	0.414
Male	0.615 (0.233-1.596)	0.32		
BMI (kg/m ²)	1.052 (0.939-1.183)	0.384		
Viral	0.467 (0.132-1.485)	0.21		
DM	0.309 (0.103-0.853)	0.028		
Use of Diuretic	1.35 (0.534-3.455)	0.527		
Use of Beta blocker	1.956 (0.584-7.128)	0.284		
Ascites	0.565 (0.181-1.68)	0.308		
Hepatic encephalopathy	1.45 (0.545-3.924)	0.457		
SBP	0.989 (0.964-1.012)	0.349		
DBP	0.999 (0.973-1.025)	0.928		
mean BP	0.994 (0.967-1.021)	0.68		
Heart rate	0.983 (0.953-1.011)	0.242		
Urine NAG	0.998 (0.99-1.005)	0.63	0.996 (0.988-1.004)	0.330
WBC	1 (1-1)	0.637		
Hemoglobin	1.111 (0.892-1.402)	0.353		
Platelet	0.999 (0.99-1.007)	0.801		
Hs-CRP	1.102 (0.986-1.271)	0.122		
Albumin	0.871 (0.304-2.462)	0.794		
BUN	1.004 (0.986-1.023)	0.646		
Total bilirubin	1.017 (0.976-1.06)	0.431		
AST	1.001 (0.998-1.004)	0.637		
ALT	0.998 (0.992-1.001)	0.445		
serum-Na	0.95 (0.882-1.018)	0.157		
Creatinine	0.098 (0.017-0.377)	0.003		
PT (INR)	1.064 (0.664-1.72)	0.791		
CP score	1.164 (0.945-1.453)	0.162		
CP class (B-C)	15216600.842 (0-NA)	0.992		
MELD score	1.042 (0.991-1.1)	0.116	1.045 (0.992-1.106)	0.106

II. Supplementary Figures

Supplementary Figure S1. Transplant free survival according to AKI phenotype

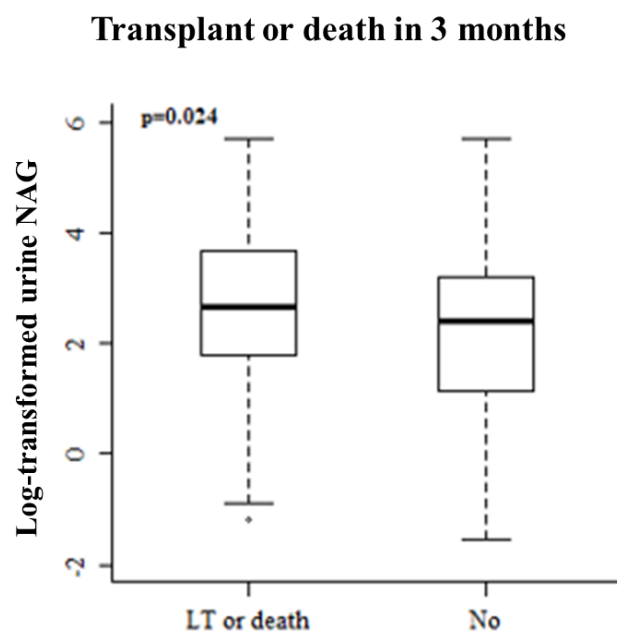


Supplementary Figure S2. Boxplot comparing mean urine NAG according to AKI recurrence



$P = 0.180$

Supplementary Figure S3. Urine NAG level according to clinical outcomes



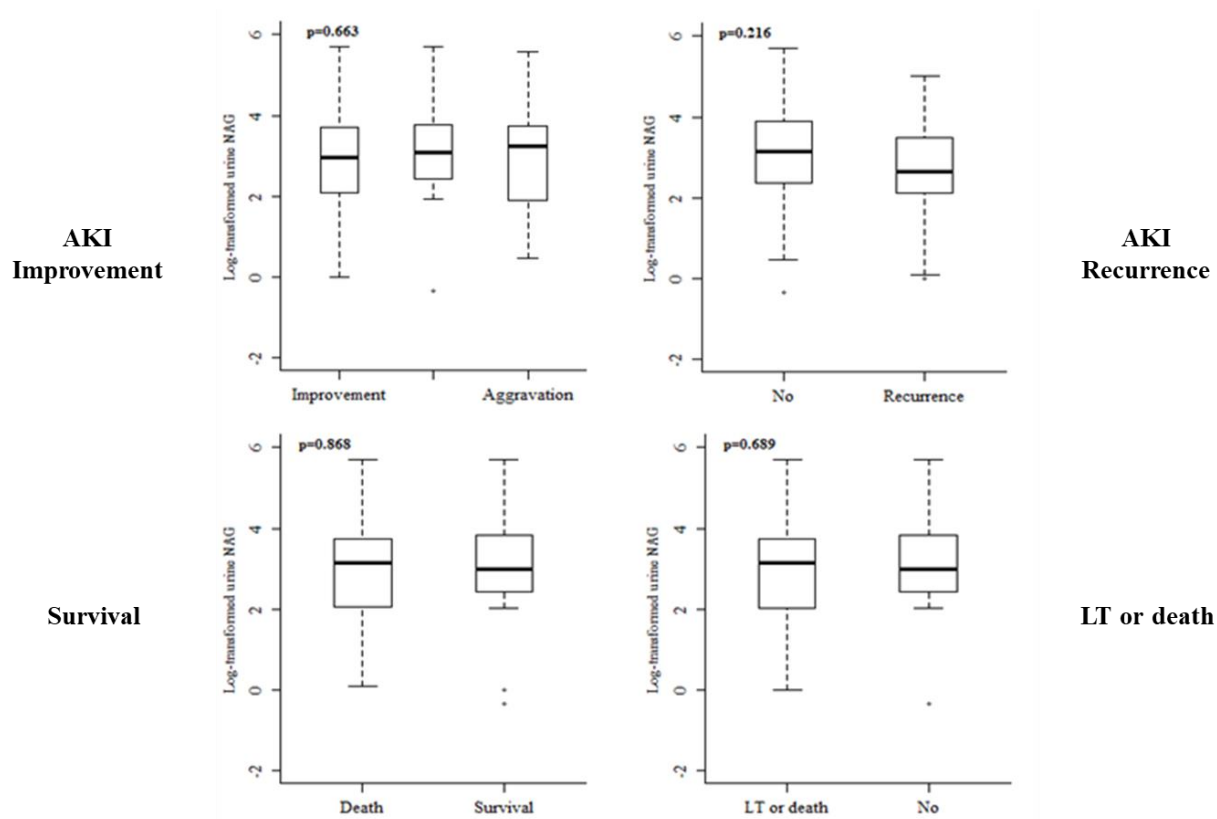
Urine NAG (mg/dL)

38.80 ± 55.90

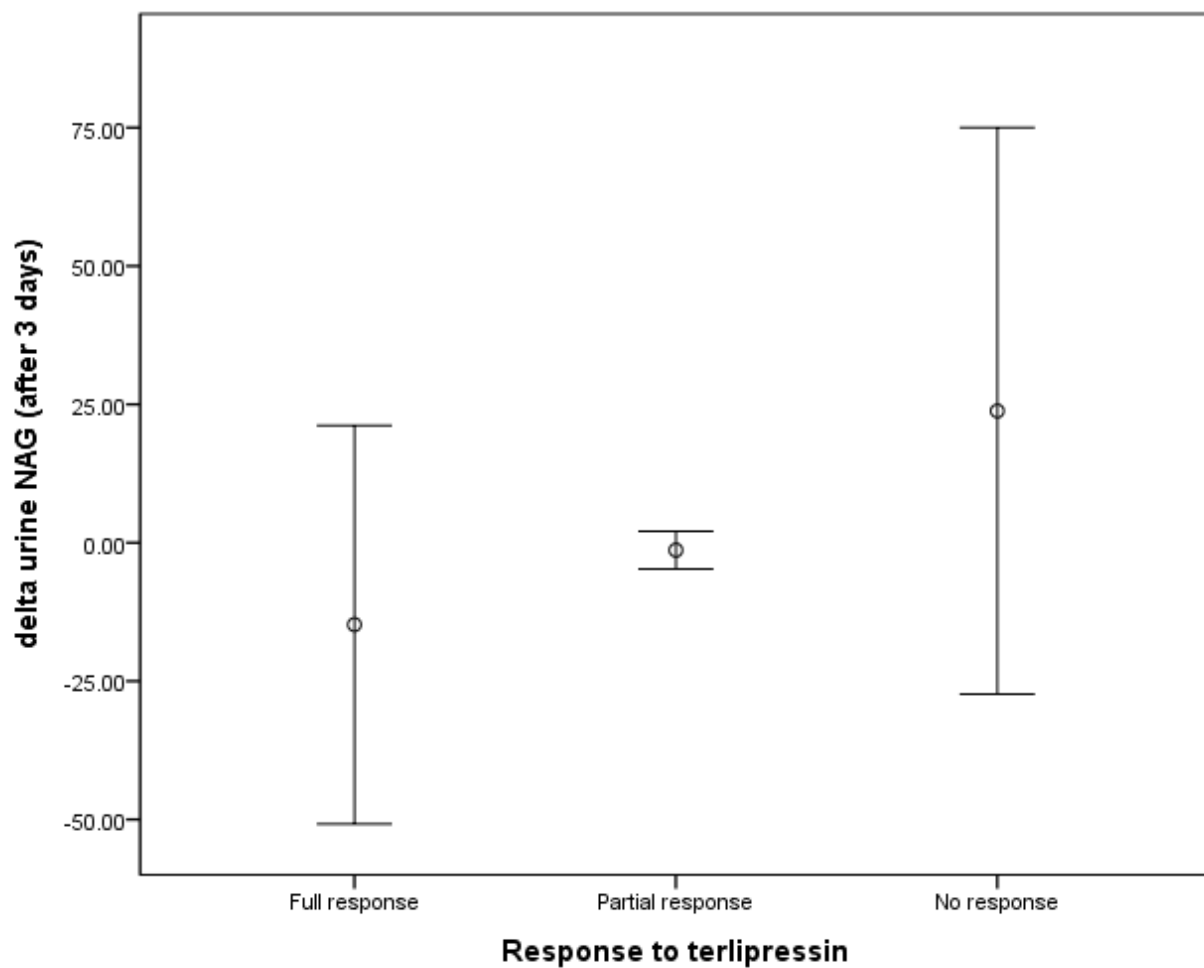
22.34 ± 36.73

$P = 0.024$

Supplementary Figure S4. Boxplot comparing mean urine NAG between groups
(HRS group)



Supplementary Figure S5. Relationship between delta urine NAG and response to terlipressin



$P = 0.383$