

Supplementary Table 1: Response to Therapy per ICA criteria¹

Type of Response	Criteria
No response	No regression of AKI
Partial response	Regression of AKI stage with Scr \geq 0.3 mg/dL above baseline value
Full response	Return of Scr to value within 0.3 mg/dL of baseline line value

ICA: International Club of Ascites; AKI: acute kidney injury; Scr: serum creatinine

Supplementary Table 2: Criteria for HRS, PRA, and ATN

Type of AKI	Criteria
HRS-1 ²	<ul style="list-style-type: none"> • Cirrhosis with ascites • Serum Creatinine concentration >1.5mg mg/dL • Doubling of serum creatinine to a final value of ≥ 2.5 mg/dL in less than two weeks • No improvement of serum creatinine concentration (decrease to ≤ 1.5 mg/dL) after at least 2 days of diuretic withdrawal and volume expansion with albumin at a dosage of 1g/kg of body weight/day up to a maximum dosage of 100g/day • Absence of shock • No current or recent treatment with nephrotoxic drugs • Absence of parenchymal kidney disease as indicated by proteinuria with a protein concentration of > 500 mg/day, microhematuria with >50 red blood cells per high-powerfield, and/or abnormal renal findings on ultrasound
PRA ³	<ul style="list-style-type: none"> • History of events leading to decreased intravascular volume (i.e. large volume paracentesis, overuse of diuretics, vomiting, diarrhea, bleeding, or sepsis) • Physical examination findings to suggest hypovolemia (i.e. dry mucus membranes) • Response to fluid repletion in patients who have evidence of volume depletion
ATN ³	<ul style="list-style-type: none"> • History of hypotensive events • Presence of shock • Urinalysis revealing muddy brown granular, epithelial cell casts, and free renal tubular epithelial cells • Normal blood urea nitrogen to creatinine ratio

HRS: hepatorenal syndrome; PRA: pre-renal azotemia; ATN: acute tubular necrosis

Supplementary Table 3: Comparison Between Derivation Cohort and Validation Cohort

<i>Characteristic Variable</i>	p-value
Age	0.414
Gender	0.675
Etiology of Cirrhosis	0.731
Body Mass Index	0.833
MELD-Na	0.275
CTP	0.912
NSAIDS	0.061
NSBB	0.999
Diabetes	0.833
Hypertension	0.803
Baseline Scr	0.600
Baseline BUN	0.062
Admission Scr	0.404
Admission BUN	0.717
Mean Arterial Pressure	0.699
Serum Na	0.634
Urine Na	0.772
Urine Urea	0.398
Urine Scr	0.159
SIRS	0.999
FEUrea	0.354
Response to therapy	0.665

MELD-Na: Model for Endstage Liver Disease Sodium; CTP: Child-Turcotte-Pugh; NSAIDS: non-steroidal anti-inflammatory drugs; NSBB: non-selective beta blocker; Scr: serum creatinine; BUN: blood urea nitrogen; eGFR: estimate glomerular filtration rate

Supplementary Table 4: Diagnostic Performance of FEUrea at a Fixed Specificity and Sensitivity of 90%

	Specificity at 90%				Sensitivity at 90%			
	Cut-off	Sensitivity (%)	NPV (%)	PPV (%)	Cut-off	Specificity (%)	NPV (%)	PPV (%)
ATN vs non-ATN	≥36.20: ATN <36.20: non-ATN	91	97	71	≥37.70: ATN <37.70: non-ATN	92	97	77
HRS vs non-HRS	<32.86: HRS ≥32.86: non-HRS	53	52	89	<21.40: HRS ≥21.40: non-HRS	61	79	81
PRS vs HRS	<32.86: HRS ≥32.86: PRA	29	52	75	<21.35: HRS ≥21.35: PRA	61	85	73

ATN: acute tubular necrosis; HRS: hepatorenal syndrome type 1; PRA: pre-renal azotemia; PPV: positive predictive value; NPV: negative predictive value

REFERENCES

- ¹ Angeli P, Gines P, Wong F, Bernardi M, Boyer TD, Gerbes A, Moreau R, et al. Diagnosis and management of acute kidney injury in patients with cirrhosis: Revised consensus recommendations of the international club of ascites. *J Hepatol* 2015; **62**(4): 968-974.
- ² Wong F, Nadim MK, Kellum JA, Salerno F, Bellomo R, Gerbes A, Angeli P, et al. Working party proposal for a revised classification system of renal dysfunction in patients with cirrhosis. *Gut* 2011; **60**(5): 702-709.
- ³ KDIGO AKI Work Group. KDIGO clinical practice guideline for acute kidney injury. *Kidney Int Suppl.* 2012;17:1–138.