

**Table 1: The renal angina index (RAI). Patients are stratified depending on the risk for developing acute kidney injury (AKI) and signs of injury [9, 10]**

<b>Table 1: Renal Angina Index (RIA)</b>	<b>Score</b>
<b>Acute kidney injury risk strata</b>	
Moderate risk: PICU admission	1
High risk: History of bone marrow or solid organ transplantation	3
Very high risk: Ventilation and inotrope use	5
<b>Clinical injury signs</b>	
<5% fluid overload or no change in eCrCl	1
5% to <10% fluid overload or decrease in eCrCl by 0% -24%	2
10% to <15% fluid overload or decrease in eCrCl by 25% -49%	4
≥15% fluid overload or decrease in eCrCl by ≥50%	8

eCrCl: Estimated creatinine clearance, PICU: Pediatric intensive care unit

**Table 2: Demographic and clinical data of the studied groups**

Parameter		Control group (I) No. (%)	Moderate illness (II) No. (%)	Severe illness (III)		P-value
				Without AKI (IIIA) No. (%)	With AKI (IIIB) No. (%)	
Sex	Female	17 (42.5%)	13 (43.3%)	8 (42.1%)	3 (27.3%)	0.808
	Male	23 (57.5%)	17 (56.7%)	11 (57.9%)	8 (72.7%)	
Weight (Kg)	Mean ± SD	3.23 ± 0.63	3.17 ± 0.45	3.05 ± 0.60	3.17 ± 0.18	0.703
	Range	2.1 – 4.4	2.5 – 4.2	2.1 – 4.2	2.9 – 3.4	
Length (cm)	Mean ± SD	52.88 ± 4.85	51.67 ± 2.14	50.89 ± 4.42	51.18 ± 1.33	0.234
	Range	44 – 60	49 – 58	44 – 58	49 – 53	
Body mass index(BMI)	Mean ± SD	11.43 ± 0.36	11.84 ± 1.00	11.69 ± 0.64	11.71 ± 0.50	0.096
	Range	10.82 – 12.23	10.6 – 14.7	10.8 – 13.88	11.00 – 12.80	
Apgar score at 1 min.	Mean ± SD	4.68 ± 0.47	4.03 ± 0.85	3.16 ± 0.69	2.00 ± 1.26	0.000
	Range	4 – 5	2 – 5	2 – 4	1 – 4	
Apgar score at 5 min.	Mean ± SD	9.38 ± 0.81	8.30 ± 1.32	6.74 ± 1.15	4.64 ± 2.16	0.000
	Range	8 – 10	6 – 10	5 – 9	3 – 8	
Gestational age by weeks	Mean ± SD	39.00 ± 1.21	38.72 ± 1.00	38.37 ± 1.12	38.64 ± 1.12	0.243
	Range	37 – 41	37 – 41	37 – 41	37 – 41	

**Table 3: Admission diagnosis of cases of the study**

Admission diagnosis	Moderate illness (II)		Severe illness (III)			
			Without AKI (IIIA)		With AKI (IIIB)	
	No.	%	No.	%	No.	%
<b>Congenital pneumonia</b>	12	40.0%	4	21.1%	2	18.2%
<b>Infant of diabetic (IDM)</b>	4	13.3%	0	0.0%	0	0.0%
<b>Congenital heart disease (CHD)</b>	5	16.7%	3	15.8%	2	18.2%
<b>Meconium aspiration syndrome (MAS)</b>	3	10.0%	4	21.1%	2	18.2%
<b>Mild hypoxic ischemic-encephalopathy (HIE)</b>	6	20.0%	0	0.0%	0	0.0%
<b>Moderate hypoxic ischemic-encephalopathy (HIE)</b>	0	0.0%	8	42.1%	0	0.0%
<b>Severe hypoxic ischemic-encephalopathy (HIE)</b>	0	0.0%	0	0.0%	5	45.5%

P-value <0.05: Significant

**Table 4: Renal functions tests and urine chemistry among study groups**

Day 3 Renal functions		Control group (I)	Moderate illness (II)	Severe illness (III)		P-value
				Without AKI (IIIA)	With AKI (IIIB)	
				No. = 40	No. = 30	
<b>Urine output (ml/kg/hr)</b>	Mean ± SD	2.29 ± 0.39	2.47 ± 0.54	2.19 ± 0.67	1.89 ± 0.48	0.014
<b>Serum Creatinine (mg/dL)</b>	Median (IQR)	0.7 (0.5–0.9)	0.95 (0.8–1.1)	0.9 (0.7–1.1)	1.3 (1.1–1.5)	0.000
	Range	0.3–1	0.5–1.4	0.5–1.3	0.9–1.7	
<b>Blood Urea (mg/dL)</b>	Median (IQR)	25 (17.5–31.5)	31.5 (25–44)	33 (30–44)	60 (43–70)	0.000
	Range	11–61	4–51	22–55	39–117	
<b>Serum Na (mmol/L)</b>	Mean ± SD	138.63 ± 5.25	138.97 ± 7.33	139.16 ± 7.51	136.00 ± 7.55	0.593
	Range	130–148	125–155	125–155	122–148	
<b>Serum Ca (mg/dL)</b>	Mean ± SD	9.16 ± 0.45	8.82 ± 0.62	9.13 ± 0.45	8.59 ± 0.54	0.002
	Range	8–9.9	7.5–10.1	8.5–9.9	7.8–9.3	
<b>Serum K (mmol/L)</b>	Mean ± SD	4.95 ± 0.22	4.69 ± 0.72	4.70 ± 0.67	5.05 ± 0.59	0.185
	Range	3.9–5.5	3.4–6	3.8–6	4.3–5.8	
<b>CRP (mg/dL)</b>	Negative	40 (100.0%)	25 (83.3%)	14 (73.7%)	5 (45.5%)	0.000
	Positive (>6)	0 (0.0%)	5 (16.7%)	5 (26.3%)	6 (51.5%)	
<b>Albumin-creatinine ratio (ACR) mg/g</b>	Mean ± SD	29.22 ± 6.63	79.85 ± 14.38	130.07 ± 21.9	233.9 ± 91.0	0.000
	Range	19.7–49	40.45–110.5	59.45–165.52	124.5–400	
<b>Beta2 microglobulin (Uβ2-MG) ug/L</b>	Mean ± SD	787.2 ± 208.4	1611.5 ± 490.1	6466.8 ± 3157.6	5079.9 ± 3207.6	0.000
	Range	368.6–1096.5	602.4–2236.5	609.8–9746.2	9150–19425.64	

P-value <0.05: Significant

**Table 5: urine chemistry and renal angina index among patient groups**

Day 3 Urine chemistry		Moderate illness	Severe illness	P-value
		Without AKI	With AKI	
		No. = 49	No. = 11	
<b>Albumin-creatinine ratio</b> mg/g	Mean ± SD	99.32 ± 30.28	233.90 ± 91.08	0.000
	Range	40.45 – 165.52	124.5–400	
<b>Urinary beta2 microglobulin</b> ug/L	Mean ± SD	3494.22 ± 3097.94	15079.93±3207.6	0.000
	Range	602.48 – 9746.2	9150–19425.64	
<b>Renal angina index</b>	Mean ± SD	3.67 ± 3.46	11.82 ± 5.60	0.000
	Range	1 – 10	5 – 20	

P-value <0.05: Significant

AKI: acute kidney injury