KSN 2021
FULLY VIRTUAL MEETING
September 02 (Thu) - 05 (Sun)

Abstract Submission No. : 2603

Identification of KIM-1 as a Biomarker in plasma and urine after intravenous contrast induced acute kidney injury in adult ICU patients

Kritika Singh[1], Harshit Singh[1], Akhilesh Jaiswal[2], Durga Misra[1], Vikas Agarwal[1]
[1]Department of Clinical Immunology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, India
[2]Department of Nephrology, SGPGIMS, India

Objectives: Identification of KIM-1 as an early and susceptible of marker AKI. Kim-1 has not been evaluated simultaneously in plasma (P) and urine (U) after intravenous contrast in adult ICU patients.

Methods: All adult ICU patients with normal renal function, requiring radiographic contrast for computed tomography (CT scan), were considered for inclusion. 5 ml blood and 5 ml urine specimen were collected before contrast exposure and at 04 h, 24 h and 48 h after contrast exposure. KIM-1 assay done by ELISA; and urinary levels normalized as per UCr values for each sample. CI-AKI is defined as a rise in SCr of ≥0.3 mg/dl within 48 hrs.

Results: 48 medical patients with 36 CT scans included. Median age was 36 yrs and 57% male. On the day of inclusion, median SOFA score was 3.16% were on mechanical ventilation; and 10% on vasopressor. Sites of CT scan were abdominal (75%), chest (15%) and head (10%). Incidence of CI-AKI was 20%. Mean values at pre-contrast, 4 h, 24 h and at 48 h after contrast for P KIM-1 (ng/ml): 0.96±0.52, 0.93±0.57 (0.39), 1.51±0.43 (0.006) and 1.66±0.46 (0.012); U KIM-1 (ng/mg of UCr): 0.37±0.21, 0.24±0.08 (0.73), 0.23±0.21 (0.07) and 0.31±0.15 (0.49). After contrast, P KIM-1 levels was significantly raised at 24 h (p=0.006) while U KIM-1 was not significantly raised at any point of time.

Conclusions: In all critically ill adult patients, at 24 h there is significant increase in Plasma KIM-1 levels and plasma KIM-1 continued to increase till 48 h while Urinary KIM-1 is not increased either at 4 h, 24 h or at 48 h after contrast exposure