Abstract ID: 9 Clinical Medicine Oral

PLASMA CYSTATIN C AND ESTIMATES OF GLOMERULAR FILTRATION RATE USING CYSTATIN C INDEPENDENTLY DIAGNOSE ACUTE KIDNEY INJURY IN CRITICALLY ILL PATIENTS WITH SEPSIS

Azrina Md Ralib[1], Iqbalmunawwir Ab Rashid[1], Nur Aisyah Ishak[1], Suhaila Nanyan[1], Nur Fariza Ramly[1] and Mohd Basri Mat Nor[1]

[1]*Department of Anaesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia.*

Presenter: Iqbalmunauwir Abd Rashid, driqbal.medic.iium@gmail.com

Introduction: Plasma Cystatin C (CysC) is as an early functional marker for acute kidney injury. Estimates of glomerular filtration rate using CysC ($eGFR_{CysC}$) has been used in some clinical setting. We evaluated the utility of CysC and $eGFR_{CysC}$ in diagnosing acute kidney injury (AKI) and predicting death in critically ill patients with sepsis.

Materials and method: This is an interim analysis of single centre, prospective observational study of critically ill patients. Inclusion criteria were patients older than 18 years old with sepsis and procalcitonin > 0.5ng/ml. Plasma creatinine and CysC were measured on admission, and $eGFR_{CysC}$. AKI was defined based on the plasma creatinine criteria of the KDIGO guideline.

Results: Thirty one patients were recruited so far, of which 13 (41.9%) had AKI and six died. CysC were higher in patients with AKI versus No AKI ($p<0.001$), and corresponding $eGFR_{CysC}$ were lower ($p=0.006$). CysC and $eGFR_{CysC}$ on ICU admission diagnosed AKI with an AUC of 0.88(0.72 to 1.00), and 0.79 (0.62 to 0.96), respectively. Both did not predict death (AUC 0.59 (0.31 to 0.87) and 0.59 (0.31 to 0.86), respectively). After adjusting for age and SOFA score, both CysC and $eGFR_{CysC}$ independently diagnosed AKI (OR 13 (1.5 to 115) and 1.03 (1.01 to 1.06), respectively). The ideal cut-off point for diagnosing AKI for CysC is 1.5 mg/dl (84% sensitivity and 89% specificity) and for $eGFR_{CysC}$ as 77 ml/min (72% sensitivity and 84% specificity).

Conclusion: Plasma CysC and its estimated GFR independently diagnosed AKI in critically ill patients with sepsis. We suggest the ideal cut-off points of 1.5 mg/dl and 77 ml/min which can be used in the clinical setting in this cohort of patients.