**PERFORMANCE OF URINARY CELL CYCLE ARREST BIOMARKERS FOR THE PREDICTION OF ACUTE KIDNEY INJURY IN CRITICALLY ILL PATIENTS**

**Introduction**: Adequate risk assessment of acute kidney injury (AKI) is mandatory before considering designing interventions aiming at altering its course. Urinary cell cycle arrest biomarkers (uCCAB – TIMP-2 and IGFBP-7) has shown promising performances in the prediction of AKI in various critically ill populations.

**Objectives**: To assess the performance of uCCAB in predicting early AKI in critically ill patients.

**Methods**: In this single centre prospective observational study, we enrolled critically ill adult patients presenting one of the following criteria after admission: vasopressor support, urine output <0.5 ml/kg/h during 4 hours, or a serum creatinine increase >8 µmol/L over 6 hours. We excluded patients with stage 2 or 3 AKI at enrollment. uCCAB was measured at inclusion. AKI was defined by KDIGO-based stage 2 or 3 AKI, and assessed after 12 hours of urine collection. uCCAB (absolute value and corrected by urinary creatinine concentration [uCr]) performance to predict AKI was assessed using area under the receiver operator characteristics curve (AUROC) and net reclassification index (NRI).

**Results**:

We included 52 patients (age 61±16 years, 26 women), of whom 18 (35%) had sepsis, 27 (52%) required vasopressors, and 33 (63%) received mechanical ventilation. AKIoccurred in 18 (35%) patients. At inclusion, uCCAB was 0.8±1.1 (ng/ml)2/1000 respectively, and did not differ between patients with and without AKI (p=0.28). uCCAB levels were >2.0 in 5 patients, 3 of which did not develop AKI. uCCAB had an AUROC to predict AKIof 0.68 (95% confidence interval [0.52; 0.84], p=0.03) and a NRI of 0%. uCCAB was positively associated with uCr (R2=0.33, p<0.01). uCr-corrected uCCAB had an AUROC to predict AKIof 0.59 (95%CI [0.42; 0.76], p=0.30).

**Conclusions**: The ability of uCCAB to predict AKI in a representative population of critically ill patients demonstrated poor performances, that were not improved after correction of uCCAB levels for urine concentration.