Introduction:
The first days of critical illness are associated with increased protein catabolism [1]. Urinary creatinine excretion (UCE) may be a predictor of endogenous protein catabolism [2]. This study aimed to evaluate the relation between UCE and creatinine clearance (CrCl), in particular, with augmented renal clearance (ARC), during intensive care unit (ICU) admission.

Methods:
Retrospective study in adult patients admitted to a multipurpose ICU of a tertiary center during 12 months. Urine was collected for an 8-h period and daily UCE was calculated by extrapolation to 24h. Relative UCE was calculated as a percentage of theoretical values obtained with equations proposed by Walser [3].

Results:
A total of 407 patients were included, with a mean age of 62.3±17.3 years, and 35.4% were female. Mean CrCl in the first 2 days of admission was <60, 60-129 and ≥130 mL/min/1.73 m² in 35.4%, 35.9% and 28.6% of patients, respectively. Considering only patients with a CrCl ≥60 mL/min/1.73 m², an analysis by age categories (20-39, 40-64 and 65-89 years), showed significant higher incidence of trauma on admission and higher CrCl in younger patients. Relative UCE in the first 2 days of admission was 119.4±37.5%, 114.5±39.5% and 115.0±42.6% for 20-39, 40-64 and 65-89 years groups (p=0.795) and decreased for all groups in the 3-7 days of admission period, with lower values for older patients (p=0.011). Relative UCE was positively associated with the presence of ARC in the different periods of time evaluated. In a multivariate logistic regression, 90-day mortality was not associated with relative UCE ≥100% or ARC.

Conclusion:
Critically ill patients showed increased relative UCE in the first days of ICU admission, which may be attributed to higher protein catabolism. Increased relative UCE was associated with ARC and both had no effect on 90-day mortality.

References: