

MO401

RENAL ANGINA INDEX IN ADULT CRITICAL CARE PATIENTS IN A POPULATION FROM BOGOTÁ – COLOMBIA

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BACKGROUND AND AIMS: Clinical outcomes of Acute Kidney Injury (AKI) in ICU mainly depend on opportune preventive strategies. Thus, early identification of AKI is mandatory, and alternative diagnostic strategies become plausible: one of them, Renal Angina Index (RAI), described by Matsura¹, predicts the development of AKI KDIGO 2-3, at 7th day after admission to the intensive care unit according to a cut-off point >6 on a scale with a “creatinine score” (determined by the difference in serum creatinine between that at ICU admission and the first 24 hours in the ICU) and the impact of the patients medical history.

¹*Kidney Int Rep* (2018) 3, 677-683.

Our aim is to describe predictive capacity of the Renal Angina Index (RAI) in adult critical care patients in our population.

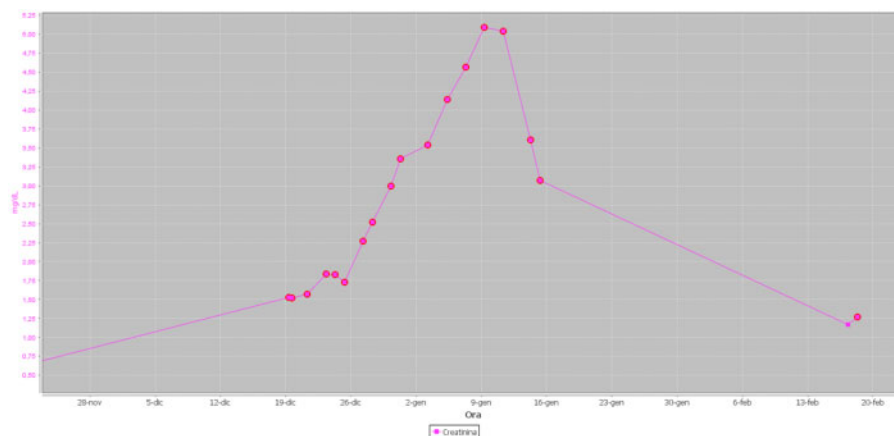
METHOD: We retrospectively selected from our Critical Care Nephrology database adult patients admitted in any of our hospitals ICU between February to August 2020, excluding those at admission with diagnosis of AKI, serum creatinine > 2.5 mg/dl, or those receiving dialysis (acute or chronic) or kidney transplantation. We defined AKI according to KDIGO criteria. The RAI score was defined as the worst condition score multiplied by the creatinine score. The performance of the RAI score was assessed by Receiver Operating Characteristic (ROC) analysis power to detect a difference of 0.2 between the area under the curve (AUC), under the null hypothesis of AUC = 0.5 (no diagnostic accuracy). The optimal cut point was estimated with the Youden method.

RESULTS: From 1204 new ICU patients, we included 372 patients (women 40.3%), with mean age 60.9 (18-98) (table 1). Main indication for ICU admission was medical conditions. Mean APACHE II was 22.9, hemodynamic support was required in 41,1% patients, mechanical ventilation in 58.6% patients and diabetes mellitus was present in 21.5% patients.

AKI KDIGO 2-3 developed in 26.8% of patients.

Mean creatinine at admission was statistically different in patients with AKI (CI 0.95 – 0.51 - -0.15 mg/dl, p=0.0004). The requirement of hemodynamic (p = 0.003) and ventilatory support (p = 0.009), sepsis (p = 0.003), and COVID-19 (p = 0.03) were more frequent in patients who developed AKI. Renal replacement therapy was required in 39 (60%) of patients with severe AKI (incidence 10,5%).

RAI cut-off point determined by Youden method in the overall sample was 24, being significantly higher in patients who developed AKI (16.54 Vs 7.47, CI 0.95 –13.5–4.99, p <0.001).



A cut-off point of 24 was required for the Best predictive capacity for severe AKI, with sensitivity, specificity, positive and negative likelihood ratio of 34%, 94%, 5.5 and 0.7 respectively.

CONCLUSION: In our population, RAI score requires a cutoff point much higher than that originally described to predict the development of severe AKI. Losing its discriminatory capacity.