

OUTCOMES OF ACUTE KIDNEY INJURY IN A NEPHROLOGY DEPARTMENT

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TOPIC: J2 – Acute Kidney Injury Clinical. Epidemiology and Outcome

Introduction and objectives

• Acute Kidney Injury (AKI) is a global problem and occurs in the community, in the hospital where it is common on medical, surgical, pediatric, and oncology wards, and in Intensive Care Unit (ICU).¹ Incidence varies with definitions and between populations, from more than 5000 cases per million people per year for non-dialysis-requiring acute kidney injury, to 295 cases per million people per year for dialysis-requiring disease.² The in-hospital mortality rate is approximately 20% to 50% and may exceed 75% in critically ill patients or patients with sepsis.³ AKI also increase the risk for chronic kidney disease (CKD) and end-stage renal disease and may result in damage to non-renal organs. Irrespective of its nature, AKI is a predictor of immediate and long-term adverse outcomes. However, these prognostic implications have been identified mainly in ICU patients.

Methods

• In this retrospective study we aim to evaluate the outcomes of patients admitted to a Nephrology ward, considering the mortality rate, evolution to CKD and the incidence of hospitalization due to a composite cardiovascular event. We included all the patients admitted in our Service with the diagnosis of AKI, according to the KDIGO classification, between 01/07/2008 and 01/07/2013. Data about demographic characteristics, personal history, length of admission, aetiology, severity, treatment and evolution of AKI, lab results at admission and at discharge, as well as the need of renal replacement treatment (RRT), death or readmission due to a cardiovascular event were collected from clinical records.

• Patients whose records did not contain the required data, as well as those with unknown serum creatinine value in the 12 months prior to the hospitalization under analysis, and those who needed treatment in the ICU, were excluded.

• Data were analysed using SPSS software, edition 22.00 for Windows. We performed survival analysis by the Kaplan-Meier method and compared the groups who had history of CKD by Cox Regression.

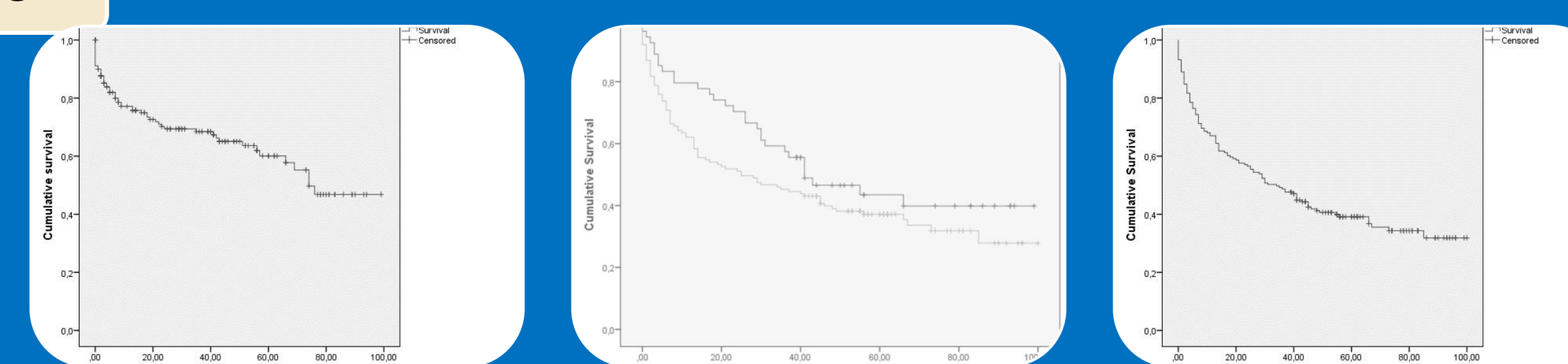
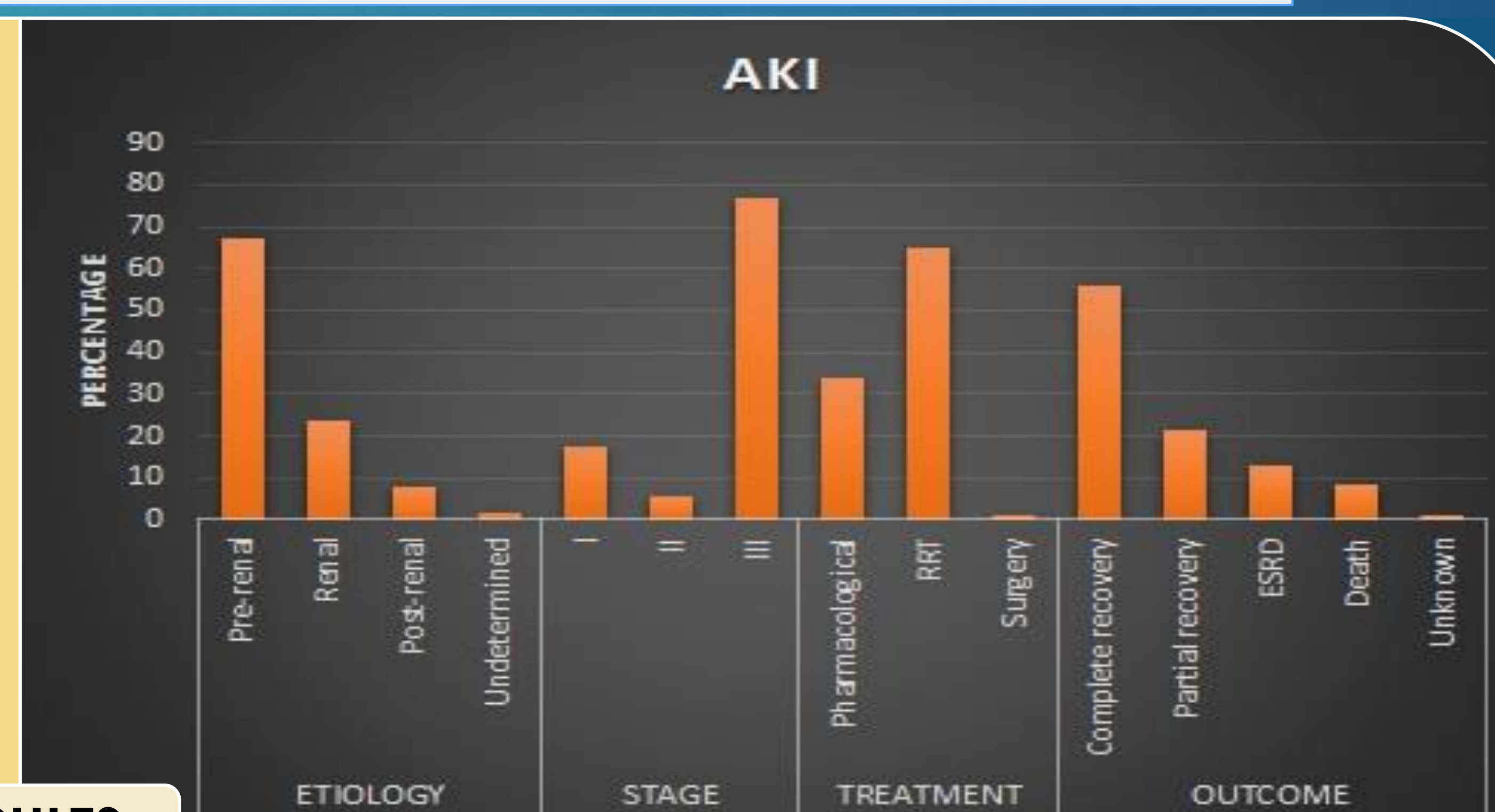
CHARACTERIZATION

- 191 patients
- 113 (59,2%) male
- Mean age was 73,83 ± 12,49 years
- 137 (71,7%) patients had history of CKD
- Comorbidity distribution based on the Charlson
 - < 3 points - 22 Patients (11,5%)
 - 4 to 5 points - 32 patients (16,8%)
 - 6 to 7 points - 59 patients (30,9%);
 - ≥ 8 points - 78 patients (40,8%)
- Median length of stay was 12 days

FOLLOW-UP

- Four patients were lost to follow-up
- Hazard ratio associated to history of CKD: 2,37 (95% CI 1,23-4,56)
- Median survival time free of RRT :
 - 69 months (38.24-99.76) in the group of patients with a history of CKD,
 - it has not yet been reached without previous CKD, (p<0.05)
- Hospital readmission for:
 - At least one for heart failure: 22 (11,5%) patients
 - Acute coronary syndrome: 5 (2,7%) patients
 - Stroke: 6 (3,1%) patients

RESULTS



Survival time free of RRT after AKI Survival time free of RRT in patients with and without history of CKD Patient's Survival

	Median survival time to ESRD (months)	Median survival time (months)	95% Confidence Interval	Mortality rate Deaths/100 patient-years	Readmission due to cardiovascular event rate event/100 patient-years
All patients	74	34	23,3-44,7	18	6

Conclusions

• The outcomes of the patients admitted in our service with AKI were different of those we find in the literature. As expected we confirmed that the patients who have history of CKD are prone to need RRT after an admission for AKI but, on the other hand, the mortality rate was higher probably because our patients were old and had a lot of comorbidities. The rate of admission for a cardiovascular event in our study was lower than that described in the literature, mostly based in UCI cohorts. Our results suggest that AKI outcomes are better in non-ICU patients than in critically ill patients but this should be confirmed by studies with bigger sample sizes.

References / Bibliography:

- ¹ Kidney Disease: Improving Global Outcomes (KDIGO) Acute Kidney Injury Work Group. KDIGO Clinical Practice Guideline for Acute Kidney Injury. Kidney Inter., Suppl. 2012; 2: 1–138.
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- ³ Yang F, Zhang L, Wu H, Zou H, Du Y (2014) Clinical Analysis of Cause, Treatment and Prognosis in Acute Kidney Injury Patients. PLoS ONE 9(2): e85214