

# FACTORS AFFECTING PROGNOSIS OF ACUTE KIDNEY INJURY IN ELDERLY

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## INTRODUCTION

Elderly represent a group with high risk of acute kidney injury (AKI) as a result of the changes in aging kidney and also of the coexistence of multiple comorbidities.

Identification the factors influencing evolution of AKI may be important for further strategies to prevent this complication, especially during hospitalization for other diseases.

## METHODS

A retrospective study was conducted to analyze the factors influencing prognosis of AKI in 226 elderly patients (> 65 years) admitted in our emergency hospital between January 2011 and December 2015. Admission criteria was increase of serum creatinine > 2.5mg/dl in patients with no known alteration of renal function or increase of serum creatinine 2 times baseline values in patients with previous known chronic renal failure. Patients were divided in two groups: community-acquired AKI (CA-AKI) and hospital-acquired AKI (HA-AKI). Information regarding comorbid conditions, etiology of AKI, complications during the course of hospitalization, need for renal replacement therapy (RRT), and mortality were collected from the computerized databases of the hospital. Factors influencing the evolution of AKI were recorded and compared in the two groups.

## RESULTS

In the mentioned period, the elderly admitted with AKI represented 43% from all AKI patients. 96 cases (42.48%) were HA-AKI, and 130 cases (57.52%) were CA-AKI transferred in our Clinic from other hospitals. The most important causes of HA-AKI were sepsis, nephrotoxic drugs, and contrast media, while in the CA-AKI hypoperfusion, ACEIs/ARBs (angiotensin-converting-enzyme inhibitors/angiotensin II receptor blockers), and NSAIDs (nonsteroidal anti-inflammatory drugs) were more common involved. AKI had multiple contributing etiologies in 23 cases (23.96%) in HA-AKI and in 59 cases (45.38%) in CA-AKI. Proven preexistent CKD was present in 23 patients (17.69%) in CA-AKI and in 21 (21.87%) in HA-AKI. In HA-AKI group, 64 patients (66.66%) needed dialysis; 53 patients (55.21%) died, 12 (12.5%) remained on chronic dialysis, in 21 cases (21.87%) there was a partial recovery of renal function and in only 10 patients (10.42%) renal function recovered completely. In CA-AKI group, dialysis was necessary in 66 cases (50.77%); 48 patients (36.92%) died, 31 (23.85%) had full recovery of renal function, 28 (21.54%) recovered partially, 23 patients (17.69%) remained on chronic dialysis.

Mortality was significantly greater in patients with HA-AKI. In multivariate analysis, in HA-AKI, sepsis was the strongest predictor for mortality ( $p < 0.001$ ). In addition, in both groups, malnutrition, neurologic failure, and cardiac failure were proven statistically as significant predictors for mortality ( $p < 0.001$ ,  $p = 0.012$  and respectively  $p = 0.013$ ); hypotension, prolonged oliguria (< 500mL/d more than 36h), and preexistent CKD were predictors for dialysis dependence ( $p < 0.001$ ). No other comorbid conditions or complications during hospital staying were proven significant for mortality prediction in multivariate analysis.

## CONCLUSIONS

In our days, in elderly, hospital-acquired AKI is less common the community-acquired AKI, but it is associated with increased mortality due, especially to sepsis as etiologic factor or as complication during hospitalization. Neurologic failure, cardiac failure, and malnutrition are also associated with poor outcome.

