

Clinical, prognostic, and evolutionary aspects of acute kidney injury in intensive care: Experience from Ibn Rochd University Hospital, Casablanca

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Abstract

Introduction: In intensive care units, acute kidney injury (AKI) occurs in 30-60% of patients and is associated with an in-hospital mortality rate exceeding 60% among those who require dialysis. The onset of AKI also increases the risk of developing chronic kidney disease (CKD), even after the acute episode has resolved.

Patients and Methods: This multicenter, prospective, descriptive, and analytical study aimed at epidemiological and prognostic assessment was conducted over a one-year period, from June 1, 2022, to May 31, 2023. The study included all patients admitted to the medical-surgical intensive care units of the University Hospital of Casablanca who developed AKI, as defined by KDIGO criteria, during the study period. All patients received nephrological follow-up to assess their renal function at hospital discharge and at 3, 6, and 12 months.

Results: A total of 170 patients were included, with 52% being female. The median age was 45.2 years \pm 22.93. Clinically, 28.4% of patients were oligoanuric, and 54.8% had multi-organ failure, primarily involving neurological and respiratory systems. The median serum creatinine level was 37.6 mg/L \pm 19.82. AKI was primarily organic in 43.1% of cases and functional in 40.2%. The main causes included dehydration, sepsis, and tumor-related obstruction. Extracorporeal renal replacement therapy was required in 25.5% of patients. The in-hospital mortality rate was 35%. Risk factors included age over 60 years, hypotension, and blood transfusion. Mortality among survivors was 3% at 6 months and increased to 6.2% at 12 months. The progression to chronic kidney disease and end-stage renal disease (ESRD) increased within the first year following the acute episode. After 12 months, 43.5% of patients maintained normal renal function, 45.6% developed CKD, and 10.9% progressed to End-Stage Renal Disease.

Conclusion: AKI is now recognized as a risk factor for chronic kidney disease and long-term mortality, highlighting the importance of ongoing nephrological monitoring.