Letter
Acute renal failure in critically ill HIV-infected patients

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Abstract

Acute renal failure (ARF) is common among hospitalized HIV-infected patients [1]. To our knowledge, however, data regarding ARF in HIV-infected patients in the intensive care unit are still lacking.

We evaluated retrospectively the incidence of ARF, as well as its aetiology, risk factors, therapy and outcome, among HIV-infected patients admitted to the Infectious Diseases Intensive Care Unit of our hospital between January 2002 and June 2006. ARF was defined by means of the Risk Injury Failure Loss End-stage classification [2]. ARF was considered if there was at least a 1.5-fold increase of serum creatinine or a urinary output lower than 0.5 ml/kg/hour for 6 hours.

Ninety-seven patients (mean age, 42.7 ± 12.2 years; 77 male, 69 Caucasian) were evaluated. Forty-six patients (47.4%) (mean age, 43.2 ± 11.1 years; $P =$ not significant; 39 male, $P =$ not significant; 38 Caucasian, $P =$ not significant) had some degree of renal dysfunction, and did not differ in terms of age, gender, race, type of HIV, $CD4^+$ lymphocyte count, stage of HIV infection, Highly Active Antiretroviral Therapy, comorbidity, and severity of illness. Sepsis ($n = 39$, 84%) was the most common aetiology. Seven patients (15.2%) received renal replacement therapy (continuous venovenous haemodiafiltration). By multivariate regression analysis, age >60 years (odds ratio, 5.32; 95% confidence interval, 1.23–23; $P = 0.025$), hepatitis C (odds ratio, 3.42; 95% confidence interval, 1.08–10.85; $P = 0.037$), as well as severity of illness (Simplified Acute Pathophysiology Score II >50; odds ratio, 0.26; 95% confidence interval, 0.1–0.7; $P = 0.008$) emerged as independent predictors of ARF.

The overall mortality was 43.3%, and mortality was higher among ARF patients (30 versus 12 patients; $P < 0.0001$). The majority of patients (95%) died within the first month of hospitalization, in the intensive care unit. Patients who did not die, however, had complete renal function recovery. Multivariate regression analysis showed that ARF (odds ratio, 0.27; 95% confidence interval, 0.1–0.67; $P = 0.007$) and illness severity (Simplified Acute Pathophysiology Score II >50; odds ratio, 0.19; 95% confidence interval, 0.07–0.53; $P = 0.002$) were independently associated with mortality.

In summary, ARF is common among critically ill HIV-infected patients and increases mortality. Sepsis is the most common associated aetiology, and age, hepatitis C, and severity of illness are independent predictors of ARF in this setting.

Authors' contributions

JAL, JF, and SJ made substantial contributions to conception and design, acquisition of data, and analysis and interpretation of data. JAL, JN, FA, and MMP were involved in drafting the manuscript or revising it critically for important intellectual content. All authors have given final approval of the version to be published.

Competing interests

The author(s) declare that they have no competing interests.

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ARF = acute renal failure.