Renal insufficiency in HIV/AIDS patients: 5-year experience in an intensive care unit

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Purpose: Renal involvement in HIV/AIDS patients, such as acute renal failure (ARF) and chronic kidney failure, is one of the most important age-related non-communicable diseases, even in the era of Highly Active Antiretroviral Therapy (HAART), and is independently associated with morbidity and mortality (1,2). Renal dysfunction, especially ARF is an important cause of hospitalization, it is well studied in developed countries and is reported a incidence of 2.7-5.9/100 person-years, although there are reports of up to 18% (3,4). Our aims are to describe clinical features, mortality and risk factors for renal disease (RD) of HIV/AIDS patients in an intensive care unit (ICU), in a period of 5 years

Methods and Materials: This is a descriptive and observational study. Among 658 HIV/AIDS patients admitted in ICU in an Infectious Diseases Hospital in Buenos Aires city from 2012 to 2017, 204 presented ARF on admission or during their hospital stay. Their medical records were reviewed. Univariate analysis was performed to identify factors related to death. We performed descriptive statistics on percentage (%), median, mean and range. A p value of <0.05 was considered significant

Results: The incidence was 31%, 72% were male. Median CD4 was 46 (0-1000) cells/ml and 82% had CD4≤200. 32% received HAART. Comorbidities identified were: enolism in 45%, smoking in 40%, previous kidney disease in 20%, high blood pressure in 10,2% and diabetes mellitus in 5,3%. The risk factors founded: volume depletion in 88%, shock in 68%, sepsis in 61%, hypoalbuminemia in 67%, use of nephrotoxic drugs in 58% and liver failure in 17% (Figure 1). 85% presented ARF on admission. Acute kidney injury (AKI) was classified as stage I in 16%, as AKI stage II 25% and as AKI stage III 59%. Medium and median of proteinuria were 0.71 g/24 hours (range 0.5 -4.39 g/24 hours) and albuminemia were both 2 g/dl (range 2-5). Renal ultrasound was performed in 69% of patients, 56% had enlarged and hyperechogenic kidneys. Only 10% was treated with hemodialysis. Overall mortality was 54 % (Figure 2), was higher in those who need hemodialysis (81%) than in those who not require it (46%) with p=0,004 (Figure 3).

Conclusion: In our experience the incidence of renal failure is higher than in literature, with male predominance. The most important risk factor was volume depletion, followed by shock and sepsis, related to the cause of hospitalization of those patients, concordant with existing publication, which is preventable and has accessible treatment. In our cohort there was significant difference in mortality between those who need hemodialysis and those who do not. We encourage the early detection of comorbidities and risk factors for early treatment to reduce kidney impact and mortality.