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Renal Complications Associated with HIV/AIDS Infections in Donka National Hospital, Conakry, Guinée

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ABSTRACT

This is a crossectional study, undertaken from August 1st 2003 to July 31st 2004 on patients hospitalized at Donka National Hospital (Conakry). The purpose was to determine the frequency of renal complications associated with infections by the human immunodeficiency virus (HIV/AIDS). We included patients who were investigated for renal disease. Forty five out of 108 patients (41.7%) demonstrated renal complications. The sex ratio (M/F) was 1.04 (24 men/21 women). The mean age was 40.4 ± 9.6 years (range 20-58 years). The age groups most affected were those between 25 and 49 years (75.55%). Monogamous patients held the first rank (51.11%), followed by polygamous patients (28.89%) and bachelors (20%). Serology was positive for HIV-1 in 42 patients (93.33%) and for HIV-2 in 3 patients (6.67%); there were no cases of co-infection with HIV-1 and 2. Renal complications consisted of acute renal failure: 24 cases (53.33%), chronic renal failure: 13 cases (28.89%), nephrotic syndrome: 4 cases: (8.89%) and interstitial nephritis: 4 cases (8.89%). We concluded that renal complications are common in HIV patients in Guinea and recommend early screening and treatment of these complications.

Keywords: *Renal complications, HIV/AIDS, Guinea*

INTRODUCTION

HIV/AIDS epidemiology underwent a significant upsurge in the last five years in the Republic of Guinea. The prevalence rate has almost doubled between 1995 and 2001 from 1.5 to 2.8% in the general population [4]. In Guinea, the lack of prior study on the renal complications of HIV/AIDS, the great number of people infected with HIV in the country [4] and the increasing referral of these patients into the Nephrology department have made this study necessary. The objective was to assess the frequency of renal complications associated with HIV/AIDS infection in hospitalized population at the Donka National Hospital, Guinea.

PATIENTS AND METHODS

The study was carried out in the Nephrology, Infectious diseases, and Hemato-oncology departments of Donka National Hospital. It is a cross-sectional study carried out between August 2003 and July 2004.

The population studied includes HIV positive patients admitted at the hospital during this period, having undergone a thorough check up including urinalysis, serum urea, creatinine, electrolytes, albumin and haemoglobin. Detailed history was taken in each patient to exclude other causes of renal disease such as medications, infections and diabetes mellitus. The parameters studied were age, sex, marital status, serologic profile and renal complications. All patients presenting with renal complications were noted. Interstitial nephritis was diagnosed by evidence of significant leucocytes in urine and proteinuria < 1g / 24 hours. Renal biopsy was not done because of logistic reasons. None of the patients received anti-retroviral treatment.

RESULTS

Among patients hospitalized with HIV infections, only 108 patients were investigated for renal complications. Among these, 45 had renal disease, a frequency of 41.7%. They were 24 men and 21 women, a sex ratio of 1.04. Among them, 23 patients

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(51.11%) were monogamous, 13 (28.89%) were in polygamous relationships and 9 (20%) were bachelors.

Their ages ranged from 20 to 58 with mean of 40.4 ± 9.6 years. The age group most affected was between 25 and 49 years of age in 34 cases (75.55%).

Forty two patients tested positive for HIV-1 (93.33%) and 3 patients tested positive for HIV-2 (6.67%). The mean length of hospital stay was 13 days (range 1-39 days).

Table 1: Renal complications

No	COMPLICATIONS	HIV-1	HIV-2	TOTAL	%
1.	Acute renal failure	23	1	24	53.33
2.	Chronic renal failure	11	2	13	28.89
3.	Interstitial nephritis	4	-	4	8.89
4.	Nephrotic syndrome	4	-	4	8.89

Table 1 shows the profile of renal complications. Among the 24 patients with acute renal failure, 20 of them were due to dehydratation from digestive losses and fever, 4 were for organic reasons via the use of anti inflammatory non steroid medications for joint pains before hospitalization.

In patients with chronic kidney disease, the mean creatinine clearance was 13+ 5.76 ml/min. Thirteen deaths were observed; the cause of death was: terminal chronic renal failure in 5 cases, acute renal failure in 1 case and infections (tuberculosis, Cryptococcus) in the other 7.

DISCUSSIONS

This study undertaken for the first time in a hospital setting in Guinea illustrates the high frequency of renal damage in the course of HIV/AIDS infection. The morbidity and mortality caused by this infection is decreasing in developed countries leading to decrease frequency of renal complications [1]. It is however on increase in Sub Sahara Africa. In Guinea, the number of people living with HIV AIDS was 9,279 cases estimated from 1987 to the end of December 2001. This number is expected to increase by 2015 reaching between 167,000 and 374,000 [4]. In Cotonou, renal damage was reported in 30.42% of patients infected with HIV [2], while in the United States, only 10% suffer renal complications [1,7]. In our series, it is the most active age group that are the most affected. In the United States, the average age was 37 ± 8 years (1.7), while in Benin it was 22 ± 4 years (2). As in Benin, monogamous patients were in the top row, followed by polygamists, then bachelors which is paradoxical because in our country, bachelors often have many partners. The fact that 20% of patients were bachelors clearly shows that we are dealing with a population at risk; the ratio of bachelors in the general population is lower than 20% (6). According to the results of the national survey of sentinel watch for HIV in pregnant women in Guinea, the prevalence was clearly higher in unwed women 9.18% while the number was 4.26% for married women [6].

Our results reveal a strong predominance of HIV-1 as stated in the literature [2, 3, 7]. This predominance could be explained by transmission in the epidemic form, its short incubation period and its greater virulence, while the lower frequency of HIV-2 may be ascribed to its low prevalence among the general population.

Renal damage is diverse and varied. Acute renal failure was found in more than half of the patients, a rate clearly higher than those of Ottolou (27.16%) [2], Welker (20%) [9], and Nyimi (11.4%) [8]. In our series, acute renal failure was in most cases functional, secondary to dehydratation through aggravated intestinal losses caused by candidasis and fever. Four of these patients underwent non steroid anti-inflammatory treatment for articular pains. No case of local medicinal nephrotoxicity was observed. Chronic renal failure in advanced stage was observed in approximately a third of the patients while, half of the cases were seen at end stage. Contrary to our findings, glomerular damage with

nephrotic syndrome and interstitial nephritis were less observed in other studies [2,5]. One of the draw back effects of this study is that renal biopsy was not done and this may affect the clinical diagnoses of renal diseases seen. Where renal biopsy has been done, the renal diagnoses may be more appropriately made.

CONCLUSION

Renal diseases in the course of HIV/AIDS were common and varied. The observed frequency was quite high compared to what has been previously described in the literature, this is probably due to the high increasing prevalence of HIV/AIDS infection and lack of specific anti-retroviral treatment in our country. Acute renal failure was by far the most frequent complication, followed by chronic renal failure, nephrotic syndrome and interstitial nephritis.

Early referral to the nephrologists will certainly improve renal outcome.

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