

*Short Communication*

## **Epidemiology of HIV/AIDS in the Intensive Care Unit of the National Teaching Hospital of Cotonou**

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HIV/AIDS is now recognized as the largest pandemic. The aim of this retrospective study was to assess the importance of the pandemic in the Intensive Care Unit of Hubert K. MAGA University and National Teaching Hospital of Cotonou (CNHU-HKM). During a ten-year period running from January 1<sup>st</sup>, 2001 to December 31<sup>st</sup>, 2010, we have identified among incoming patients, all cases of HIV-positive diagnosed prior to admission and during hospitalization in intensive care. A total of 8,862 patients were admitted during the study period. Among these patients, 17 cases of HIV/AIDS were collected; thus, the prevalence was 0.19%. All cases were adults of the both sexes; the median age was 37 years. Neurological manifestations were the main reasons to hospitalization. There were 8 men versus 9 women (47.1% v 52.9%) with a sex ratio M/F of 0.88. The median age was 39.37 years in men (range 27-54 years). Women were younger, with the median age of 34 years (range 27- 49 years). The overall mortality was 88.2% during hospitalization with shortly lasted 4.87 days average. The introduction of routine screening and early management of patients will allow a reduction in HIV mortality.

**Keywords:** HIV/AIDS, epidemiology, intensive care, neurological manifestations, mortality.

### **INTRODUCTION**

HIV / AIDS are now recognized as the largest pandemic. According to the 2010 global report by UNAIDS, the number of people living with HIV (PLWHIV) was estimated in late 2009 to 32,800,000 in the world including sub-Saharan Africa with 22.5 million or 68% of the world. While it is noted since 2001 a downward trend, prevalence and mortality remain high in sub-Saharan Africa and are respectively 5% and 1.8 million. In Benin, prevalence is 2% in 2010 and the number of people

living with HIV is estimated to 32000. Mortality is so often high in intensive care. Through this work, the authors wanted to assess the importance of the epidemic in Intensive Care Unit in Hubert Koutoukou MAGA National Teaching Hospital of Cotonou (CNHU-HKM).

### **PATIENTS AND METHODS**

This retrospective study of ten-year period was conducted between January 1<sup>st</sup>, 2001 and December 31<sup>st</sup>, 2010 and held in the Intensive Care Unit (ICU) of the

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Anesthesia and Resuscitation Service in CNHU-HKM of Cotonou. We included from the registers of patients admission, all cases of HIV-positive diagnosed prior to admission and during hospitalization. The variables studied were: age, sex, reasons for admission and the outcome. In statistical analysis, values were expressed as mean and percentage. Chi Square test is used for comparison. Variables with p-values of less than 0.05 were considered significant.

## RESULTS

8,862 patients were admitted during the study period. 17 cases of HIV-positive were diagnosed, representing a prevalence of 0.19%. Among the 17 cases, 4 patients were diagnosed during hospitalization (23.52%). The 17 patients were all adults with 8 men (47.1%) and 9 women (52.9%). The Sex ratio M/F was 0.88. The median age was 37 years (range 27-54 years). In men, the median age was 39.37 years (range 27-54 years). In women, the median age was 34.89 years (range 27- 49 years). 13 patients (76.47%) were Beninese and 4 patients (23.52%) were non Beninese (03 women and 01 man). The reasons of admission were mostly neurological: 15 patients (88.23%). Among these 15 neurological patients, there was a 28 weeks pregnant woman and a man who had pulmonary tuberculosis associated. Toxoplasmosis serology was positive for 2 patients (11.76%). In the 15 neurological patients, only one of them complained of fatigue; all the 14 remaining were in deep coma with Glasgow Coma Scale range 8-4 except only one patient who had Glasgow coma scale of 9. For the remaining two other cases, there were an acute gastroenteritis, and a disseminated intravascular coagulation (DIC). Both of them respectively died after 01 and 02 days. Overall, 15 patients died (88.23%). The two survivor patients were respectively admitted for fatigue and seizure for which no other etiology could be found. The management of the patients was symptomatic treatment and no specific treatment could be conducted. The length of survival in patients who died was 4.87 days (range 0-17 days).

## DISCUSSION

HIV / AIDS prevalence of 0.19% found among patients in intensive care in Cotonou seems to be under estimated while considering the prevalence of 2% in Benin. This rate could be much higher if a screening was established in the intensive care unit. This rate could also mean that it could be many other patients infected with HIV who died elsewhere than in intensive care. The sex distribution (52.94% in women versus 47.06% in men) followed the same trend as that observed by Atangana et al (2003) in intensive care in Yaoundé but with a clear predominance of women (31 women versus 20 men). The median age

of our patients is 37 years. This data is identical to that found in the study led in intensive care by Atangana et al (2003) in Yaoundé on neurological disorders in people living with HIV where the median age was 38 years. Gill et al (1999) had also found 38 years in their multicenter study in intensive care units on four London hospitals. In all these studies, mortality is also high but lower than in our population and death occurs also quickly. Bonarek et al (2001) found a high overall mortality of 65% in Bordeaux but the patients hospitalization length in ICU is four times more extended than that obtained in our sample (20 days versus 4). Leifeld et al (2000) have reached in Bonn a much lower overall mortality of 39%. However, in patients with respiratory disturbances, the mortality amounted to 53% but remains significantly lower than in our sample. In New York, De Palo et al. (1995) reported a lower mortality of 51% among people living with HIV in "lungs division" of a critical care unit but this rate is close to that recorded by Leifeld in patients also affected to the respiratory system. Rosen et al. (1997) obtained two years later in the same clinic as De Palo et al (1995) in New York, a reduced mortality (40% v 51%). It is the neurological manifestations that often motivate the admission of PLWHIV in the ICU. In our sample, 88.23% of patients were admitted for neurological reasons. According to Lacroix (1999) at the University Hospital of Bicêtre in France, these neurological manifestations can appear at all stages of the disease, from seroconversion to AIDS. In Munich, Umgetler et al (2007) had already noted that coma was 50 to 90% of cases the presenting symptom of patients at the stage of primary HIV infection. These authors explained that it is related to many variable events but not specific to HIV infection. In the cases of central nervous system damage, Lacroix (1999) recommends that opportunistic infections especially tuberculosis and toxoplasmosis should be suspected. Atangana et al (2003) also noticed similar observations in PLWHIV in Yaoundé and have found six cases of toxoplasmosis among 51 patients. That result is similar to the one of our sample as we had 2 cases among 17 patients. About the place of diagnose, while considering the small proportion of PLWHIV diagnosed during hospitalization in the ICU (4 of 17) and the short length of survival, it clearly appears that it is the neurological manifestations of the terminally stage witch motivate the admission of patients in intensive care at CNHU of Cotonou.

## CONCLUSION

The prevalence of HIV/AIDS is still under estimated in intensive care at CNHU of Cotonou. Patients are often admitted at the stage of neurologic manifestations of AIDS. The mortality is very high after a short hospital stay. The introduction of routine screening and early management of patients will allow therefore a reduction in HIV mortality.

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