Changes in liver-related hospital admissions and hospital mortality among HIV-infected patients (1998 to 2005)

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Liver-related disease has increased as a cause of hospitalization and in-hospital death in HIV-infected patients since the introduction of highly active antiretroviral therapy (HAART). Better clinical management of these diseases may contribute to decreasing their incidence. Admissions due to liver-related disease in HIV-infected patients in our institution increased from 2.9% in 1998-1999 to 11.3% in 2004-2005 ($P = 0.001$). In-hospital deaths due to this cause increased from 2.7% in 1998-1999 to 26% in 2002-2003 ($P = 0.02$), with a subsequent decrease to 22% in 2004-2005. Hospitalization of HIV-infected patients for liver-related disease continues to increase, whereas the rate of in-hospital deaths from this cause appears to have changed since 2003.

\textit{Key words:} HIV infections. Liver disease. HAART. Morbidity. Mortality.

Introduction

Highly active antiretroviral therapy (HAART) has changed the natural history of human immunodeficiency virus (HIV) infection in patients who have access to it\textsuperscript{1}. The decrease in hospital admissions and deaths due to acquired immunodeficiency syndrome (AIDS) in this population has paralleled an increase in the number of hospitalizations and deaths due to other causes\textsuperscript{2}. Thus, the importance of liver-related diseases (LRD) as a cause of hospital admission and death has increased in HIV-infected patients\textsuperscript{3,4}.

In recent years, however, increasingly more patients are being effectively treated for hepatitis C virus (HCV) and hepatitis B virus (HBV) infections. In addition, HAART has been found to slow down the progression of liver fibrosis and reduce liver-related mortality in HIV/HCV-coinfected patients\textsuperscript{5,6}. Based on these facts, we hypothesized that liver-related morbidity and mortality in HIV-infected patients has declined in the last few years.

Methods

HIV-infected patients hospitalized from January 1998 to December 2005 were retrospectively analyzed in this serial cross-sectional study. All the discharge and the in-hospital death reports in our institution are codified using the International Classification of Diseases, 9\textsuperscript{th} edition (ICD-9). The decrease in hospital admissions and deaths due to acquired immunodeficiency syndrome (AIDS) in this population has paralleled an increase in the number of hospitalizations and deaths due to other causes. Thus, the importance of liver-related diseases (LRD) as a cause of hospital admission and death has increased in HIV-infected patients.

Evolución de los ingresos y la mortalidad por hepatopatía en pacientes infectados por el VIH entre 1998 y 2005

La hepatopatía ha aumentado como causa de ingreso y muerte intrahospitalaria en pacientes infectados por el virus de la inmunodeficiencia humana (VIH) tras la aparición de la terapia antiretroviral de gran actividad (TARGA). Un mejor manejo clínico de la hepatopatía podría ayudar a disminuir su incidencia. En nuestro centro, los ingresos por hepatopatía aumentaron del 2.9% en 1998-1999 al 11.3% en 2004-2005 ($P = 0.001$). Las muertes intrahospitalarias debidas a hepatopatía aumentaron del 2.7% en 1998-1999 al 26% en el período 2002-2003 ($P = 0.02$) y disminuyeron al 22% en 2004-2005. Si bien el número de ingresos por hepatopatía en pacientes infectados por el VIH todavía sigue aumentando, parece que la mortalidad intrahospitalaria ha sufrido un cambio desde 2003.

\textit{Palabras clave:} Infección por VIH. Hepatopatía. TARGA. Morbilidad. Mortalidad.

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Results

Over the study period, 1138 HIV-infected patients were hospitalized, and 72 (6.3%) were admitted for LRD. Liver disease was the reason for admission in 9 (2.9%) of 311 patients in the 1998-1999 period, which was used as the reference period for comparisons. In the 2000-2001 biennium, there were 14 (4.7%) LRD admissions out of a total of 300 (Odds ratio [OR] 1.64, 95% confidence interval [95% CI] 0.70-3.85, P = 0.254). In the 2002-2003 period, 21 (7.5%) of 279 admissions were due to LRD (OR [95%CI]: 2.73 [1.23-6.07], P = 0.014). And in the 2004-2005 period, 28 (11.3%) of 248 patients were admitted for LRD (OR [95%CI]: 4.27 [1.98-9.23], P < 0.001).

Between 1998 and 2005, 124 HIV-infected patients died in the hospital. Twenty (16%) deaths were due to LRD. Total deaths and liver-related deaths by biennia are summarized in table 1. In-hospital mortality due to LRD increased significantly from the 1998-1999 period to 2002-2003. However, in the last period, LRD mortality showed a tendency to decrease. There were no significant differences between the last 2 biennia (P = 0.8).

Discussion

Liver-related disease as a cause of hospitalization has continued to increase in HIV-infected patients in our institution. However, the trends in hospital mortality due to LRD seem to have changed in the last few years. In fact, after a striking increase in the 2000-2001 period, in-hospital mortality increased less markedly in the following biennium and presented a non-significant decreasing trend since 2003.

Since 1998, the number of HIV-infected patients admitted to our hospital has progressively decreased, a fact that likely reflects the effect of HAART, interferon plus ribavirin treatment for HCV coinfection, and better management of chronic liver disease. However, LRD admissions continue to increase. The findings of this study do not support our hypothesis of a decrease in LRD admissions in the late HAART era and are consistent with previously reported data23. Nonetheless one Spanish group reported an increase in LRD hospital admissions and deaths among HIV-infected patients from 1996 to 2001, followed by a significant reduction since 200124. Another study describing the trends of admissions and in-hospital deaths in the recent past. The frequency of admissions due to LRD is increasing while in-hospital LRD mortality may be reaching a plateau or starting a fall. The underlying reasons for this new clinical pattern should be clarified in future cohort studies.

References