Fibrosis progression in HIV/HCV co-infected patients with paired liver biopsies: evaluation of risk factors

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OBJECTIVES

- Several studies have demonstrated that liver disease is more rapidly aggressive in HIV/HCV co-infection.
- The aim of our study was to analyse fibrosis progression in HIV/HCV co-infected patients undergoing a subsequent liver biopsy and to find out possible risk factors.

METHODS

- Since January 1985 to January 2002, HIV/HCV co-infected patients, with paired biopsies have been retrospectively evaluated.
- All specimens were read double-blinded by two pathologists, who were not aware of the clinical or biological data of the patients.
- The stage of fibrosis was considered progressed when an increase of at least one stage in the second biopsy occurred.
- The fibrosis progression rate (FPR) was defined as the difference between the scores at 2 consecutive biopsies divided by the time in years elapsed between these two biopsies.
- Correlation with epidemiological, clinical, biochemical and immunological data was applied.

RESULTS

- Characteristics of the 36 patients enrolled are described in Table 1.
- The median time between the two consecutive liver biopsies was 54 months (IQR 50-86).
- 18/36 patients (50%) showed fibrosis progression. Comparison between patients who progressed and who did not, showed a significant difference in mean staging score at first biopsy (1.22±0.94 vs. 2.1±1.13 p=0.04).
- .Median FPR was 0.23 (0.19-0.43 95% CI), therefore median expected time to cirrhosis resulted to be 21 years (11.6-26.3 95% CI).
- 33/36 patients (91.7%) after the first biopsy were treated with interferon monotherapy. Only 2 patients achieved sustained virological response (SVR) after treatment, and they did not show progression of fibrosis.
- Heavy alcohol intake, co-infection with HBV and lack of antiretroviral therapy were associated, in univariate analysis, with increased risk of fibrosis, even if without statistical significance.
- A decrease in CD4+ cells count more than 10% between two consecutive biopsies was significantly associated to progression of fibrosis, either in univariate (OR 4 p=0.05) and multivariate analysis (OR 6.85 p=0.002) (Figure 1).

CONCLUSIONS

- We reported a FPR of 0.23, in accordance with several other studies showing a faster progression of fibrosis in HCV/HIV co-infected patients compared to HCV mono-infected ones.
- Our results underline the relevance of encouraging withdrawal of alcohol consumption among people affected by chronic hepatitis C and performing strict follow-up of patients co-infected with HBV.
- It is also mandatory to evaluate HCV/HIV co-infected patients for hepatitis C treatment and for HAART introduction, to increase CD4+ cells count in order to reduce the risk of fibrosis progression and to slow the evolution of liver disease.

TABLE 1. Characteristics of HIV-HCV positive patients at the first liver biopsy

Characteristics of the pts	Value (%)
Male sex	27 (75%)
Age, median years (IQR)	28 (26-31)
Risk category: IDU Sexual activity	 31 (88.5%) 5 (14%)
CDC stage: A B C	 4 (11.2%) 16 (44.4%) 16 (44.4%)
History of alcohol abuse	19 (52.7%)
HBsAg positive	6 (16.6%)
CD4+ count at biopsy, median cells/mmc (IQR)	429 (256.5-624)
CD4+ count at nadir, median cells/mmc (IQR)	171 (97-267.5)
ALT at biopsy, median IU/l (IQR)	116 (84.5-173)
ART received at biopsy: None Single or dual	 16 (44.4%) 20 (55.6%)

FIGURE 1. Univariate analysis of factors associated with liver fibrosis progression