M42-Determinants of HIV Sustained Viral Suppression in HIV/HCV-Coinfected Patients: role of the HCV sustained viral suppression

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Abstract

- The impact of hepatitis C virus-related characteristics such as liver fibrosis, the HCV genotype, HCV load and a sustained virologic response (SVR) to HCV therapy on the chances of achieving sustained HIV suppression in coinfected patients is not fully documented.
- We examined the impact of both HIV/HCV-related and sociobehavioral characteristics on HIV sustained viral suppression (SVS) in 897 patients included in the ANRS CO13 HEPAVIH cohort. The main outcome variable was HIV SVS, defined as at least two consecutive undetectable HIV viral loads. In univariate analyses, HIV SVS was significantly associated with older age, a higher level of school education, no excessive alcohol consumption, higher nadir and current CD4 cell counts, good adherence to HIV therapy, HIV therapy consisting of NRTI + PI or NRTI + NNRTI versus triple NRTIs alone and HCV SVR.
- In multivariate analysis, older age (OR 1.23, 95% CI 1.02-1.49; p=0.03), a higher level of school education (OR 1.92, 95% CI 1.04-3.56; p=0.04), good adherence to HIV therapy (OR 2.05, 95% CI 1.23-3.56; p= 0.006) and HCV SVR (OR 1.81, 95% CI 1.01-3.26; p=0.04) remained significantly associated with HIV SVS. In contrast, triple NRTI regimens were associated with failure to achieve HIV SVS (OR 0.50, 95% CI 0.27 – 0.94; p=0.03).
- These results show that HCV SVR markedly increases the likelihood of achieving HIV SVS. As triple-drug anti-HCV regimens including protease inhibitors were recently reported to yield higher rates of HCV SVR, effective treatment of HCV infection should be a major goal in HIV/HCV co-infected patients.

Introduction

- The relationship between the responses to HCV and HIV treatment is poorly documented

- We examined the impact of HIV/HCV-related and sociobehavioral characteristics on the rate of HIV sustained viral suppression (HIV-SVS) in a large cohort of HIV/HCV-coinfected patients (ANRS CO13 HEPAVIH)

Methodology

- 1175 HIV/HCV-coinfected patients receiving antiretroviral therapy for at least 6 months and for whom at least two HIV viral load values were available
- **Outcome variable** : HIV Sustained Viral Suppression (SVS), defined as at least two consecutive HIV viral loads below the detection limit (≤ 50 copies/ml).
- Discordant consecutive values were not included.
- Failure to achieve HIV SVS was defined as at least two consecutive HIV viral loads > the detection limit (> 50 copies/ml).

Methodology

- Generalized linear models were used to analyze correlated data from repeated measurements, considering all available HIV viral loads for all patients

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- Factors with p values < 0.1 in univariate analysis (Wald Chi-square test) were included in a multivariate logistic regression model, and variables associated with the outcome measure were selected in a backward stepwise procedure. All statistical tests were two-sided, with a type I error of 5%.

Results

- Analysis of a total of 2455 HIV viral load :
  - 2269 undetectable (92%)
  - At least two consecutive detectable HIV viral loads in 113 patients (13%)
- Median duration of antiretroviral therapy : 130 (94-165) months
- Antiretroviral regimen :
  - 2 NRTI plus PI : 58% ;
  - 2 NRTI plus NNRTI : 16% ;
  - Triple-NRTI : 10%
- Median duration of ARV : 44 (23-72) months
- Median CD4 : 467/mm3 (319-654).

Results- Multivariate analysis

Factors associated with HIV SVS:

- Older age (OR 1.23, 95% CI 1.02-1.49; p=0.03)
- Higher level of school education (OR 1.92, 95% CI 1.04-3.56; p=0.04)
- Good adherence to HIV therapy (OR 2.05, 95% CI 1.23-3.56; p= 0.006)
- HCV SVR (OR 1.81, 95% CI 1.01-3.26; p=0.04)
- Triple-NRTI regimens (OR 0.50, 95% CI 0.27 – 0.94; p=0.03)

Discussion

- After adjustment for age, education, HAART adherence, and the type of HAART
  - HCV SVR is independently associated with HIV SVS.

- Several factors may explain this finding :

  - 1- HCV SVR decrease the risk of severe cytolysis during antiretroviral therapy
  - 2- HCV SVR improves steatosis in patients with HCV genotype 3 infection
  - 3- HCV SVR slows the progression of fibrosis
  - 4- HCV SVR reduces the risk of developing severe end-stage liver disease