Poorer treatment response among HIV/HCV-co-infected patients treated with combined HIV/HCV therapy

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Background

- Hepatitis C virus (HCV) is a common infection amongst HIV-infected patients.
- Combined HIV/HCV treatment is complicated by lower efficacy and higher toxicity rates

Objective

to describe differences in all-cause mortality and immunologic response between HCV co-infected patients receiving combined HCV/HIV treatment, HCV co-infected patients receiving HAART and mono-HIV infected HAART treated patients

Methods

Study population

- Patients participating in the ATHENA observational cohort
- With available HCV test result
- At least 18 years of age at time of HAART initiation
- Initiation of HAART during follow-up
- Patients with Hepatitis B co-infection were excluded

Definitions

- HCV infection included positive a HCV-antibody test or HCV RNA test
- Combined HIV/HCV therapy: ≥3 antiretroviral drugs from ≥ 2 drug classes+ temporary (peg) interferon during HIV treatment
- patients groups:
  1) HCV-negative receiving HAART
  2) HIV/HCV co-infection receiving combined HIV/HCV treatment
  3) HIV/HCV co-infection receiving HAART

Statistical analysis

- Cox proportional hazards model: risk of dying between groups
- Kaplan Meier estimates of the probability of death
- Logistic regression models: Odds Ratios (OR) for reaching :
  1) an increase in CD4 cell count ≥100 cells/µL
  2) HIV RNA levels of ≤50 copies/ml

  At 6 months after start HAART
- Adjusted for age, gender, risk group, pre-treatment, baseline CD4 cell count and HIV RNA levels and year of HAART initiation

Table 1: Baseline and follow-up characteristics

	Only HIV infected	HCV co-infection Combined HIV/HCV treatment	HCV co-infection HAART
total (%)	5496 (85)	36 (1)	901 (14)
Transmission category:			
MSM	3050 (55%)	10 (28%)	190 (21%)
Heterosexual	2019 (37%)	5 (14%)	163 (18%)
IDU	19 (0.4%)	12 (33%)	399 (44%)
Other	408 (6%)	9 (25%)	149 (17%)
Male gender	4289 (78%)	31 (86%)	649 (72%)
Pre-treated	4450 (81%)	23 (64%)	330 (37%)
Deaths (n (%))	356 (6%)	7 (19%)	153 (17%)
At HAART initiation			
Age *	42 (35-49)	46 (41-51)	44 (39-50)
CD4 count cells/µL*	190 (70-315)	270 (150-470)	188 (90-300)
HIV RNA log10 copies/ml*	5.0 (4.4-5.4)	4.9 (3.2-5.2)	4.8 (4.1-5.2)
At 6 months after HAART			
CD4 count cells/µL *	320 (181-480)	380 (210-570)	280 (170-440)
HIV RNA log10 copies/ml *	1.9 (1.7-2.6)	2.60 (2.2-3.0)	2.3 (1.7-2.7)

Results

- 6433 of the 12257 patients in ATHENA were included in this study
- 15% of the patients had antibodies against HCV
- 36 of the co-infected patients were treated with a (peg) interferon containing HAART regimen
- 516 (8%) of the patients died during follow up.
- mortality at 5 years after HAART initiation:

  High mortality rates amongst HCV-co-infected patients on HAART (16%(CI:14-18)), 12% (5-29) of HCV co-infected patients receiving combined HIV/HCV treatment and 6% (6-7) of the HCV-negative patients died

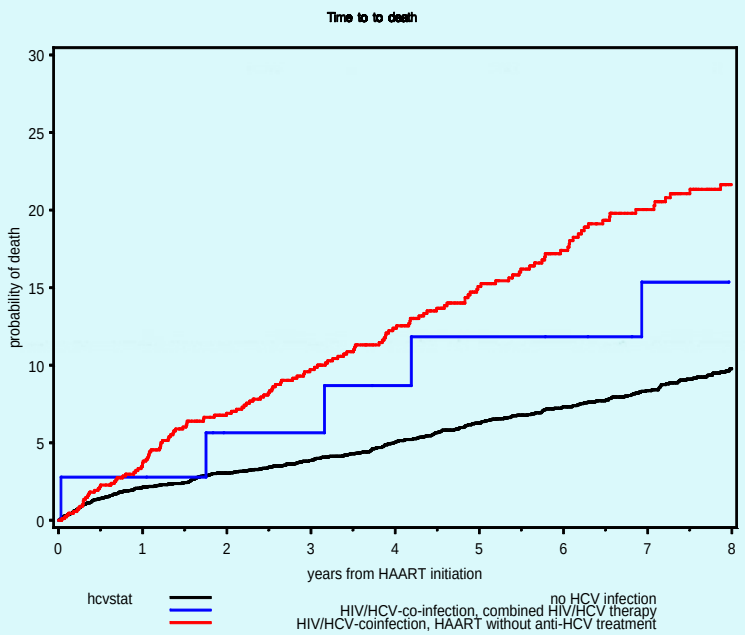

Table 2: Hazard ratios of time to death and immunologic and virologic success.

	Death^ HR (95% CI)	Increase CD4 cell count ≥ 100 cells/µL*^ OR (95% CI)	Undetectable HIV RNA levels*^ OR (95% CI)
Non co-infected	1	1	1
HCV co-infection receiving combined HCV/HIV treatment	1.73 (0.69-4.12)	0.74 (0.27-1.98)	0.43 (0.16-1.18)
HCV co-infection receiving HAART	1.60 (1.18-2.18)	0.77 (0.64-0.93)	1.23 (0.95-1.60)
Non co-infected	1	1	1
All HCV co-infected patients	1.57 (1.15-2.12)	0.77 (0.64-0.93)	1.13 (0.89-1.46)

* 6 months after HAART initiation, ^ adjusted

Conclusions

HCV co-infection increases mortality in HIV-infected patients using HAART. Only a small number of patients is receiving HIV/HCV treatment. Despite these small numbers: Among HIV/HCV co-infected patients, early immunologic response seems less favourable compared to HIV only infected patients. The poor virologic response among HCV-co-infected patients receiving combined HIV/HCV treatment might be a result of low adherence to HAART in patients receiving anti-HCV therapy.