IFN-FREE THERAPY IS EFFECTIVE AND SAFE FOR HCV RECURRENCE IN LT HCV/HIV CO-INFECTION

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Background

Survival in HCV/HIV-coinfected people who undergo liver transplant (LT) is lower compared with HCV mono-infected recipients. However, HIV/HCV patients cured from HCV recurrence achieve 5-year survival rates similar to the HCV mono-infected population. In the Interferon era, therapy against hepatitis C virus (HCV) recurrence after (LT) had poor effectiveness and tolerability both in HCV-mono-infected (≈30% of sustained virological response [SVR]) and HIV-HCV co-infected LT recipients (≈20% of SVR). Only small case series have reported on the use of direct antiviral agents (DAAs) in LT HCV/HIV co-infected recipients.

Objectives

This study aims to determine the effectiveness and safety of IFN-free regimens in a nationwide cohort of HIV-HCV co-infected individuals having undergone LT.

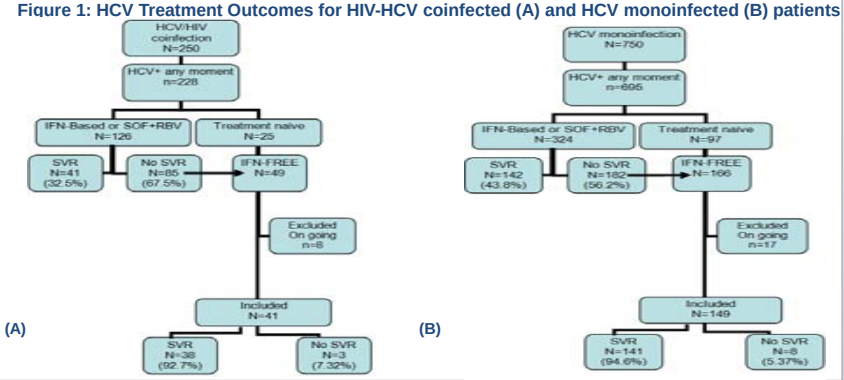
Methods

271 consecutive HIV-infected patients who underwent LT between 2002 and 2012 and who were followed until December 2016 were matched with 816 LT recipients without HIV infection in 22 Spanish institutions. Matched criteria were: same site, age (±12 years), gender, calendar year, and LT indication. Those patients who received IFN-free therapy for HCV recurrence were included.

Table 1. Characteristics of LT recipients receiving IFN-free treatment according to HIV-infection status

	HIV+	HIV-	P-Value
No. of cases	41	149	
Matching Variables			
Male	31 (75.6%)	121 (81.2%)	0.567
Age (year)	47.0 (6.48)	49.6 (5.97)	**0.041**
Data related to HIV infection (before OLT)			
HIV-1 risk factors: MSM	2 (5.00%)	--	--
Heterosexual relations	4 (10.0%)	--	--
Drugs use	28 (70.0%)	--	--
Hemophilia	3 (7.50%)	--	--
Other	3 (7.50%)	--	--
Plasma HIV-1 RNA <50 copies/ml	35 (85.4%)	--	--
CD4 T-cell count	367 [260;538]	--	--
Previous AIDS-definig events	7 (17.1%)	--	--
Duration of HCV infection (mo)	505 (419)	--	--
Type of cART: NRTI-based	4 (10.3%)	--	--
PI-based	1 (2.56%)	--	--
NNRTI-based	10 (25.6%)	--	--
II-based	20 (51.3%)	--	--
Others	4 (10.3%)	--	--
Change cART at start	6 (15.4%)	--	--
HCV infection characteristics			
HCV-RNA plasma levels(UI/mL)	1961627 [724200;4421294]	2410000 [893740;5167864]	0.351
Fibrosis Stage: F0-F1	11 (26.8%)	39 (38.2%)	0.363
F2	8 (19.5%)	10 (9.80%)	
F3	6 (14.6%)	23 (22.5%)	
F4	16 (39.0%)	30 (29.4%)	
Immunosupression before starting anti-HCV treatment:			
Cyclosporine Based	6 (15.4%)	15 (10.1%)	0.329
Tacrolimus-based	26 (66.7%)	109 (73.6%)	
Other regimens	7 (17.9%)	24 (16.2%)	
IFN-Free treatment characteristics			
Regimen: SOF + DCV	11 (26.8%)	14 (9.40%)	0.114
SOF + LDV	5 (12.2%)	13 (8.72%)	
SOF + SMV	0 (0.00%)	16 (10.7%)	
SMV + DCV	0 (0.00%)	3 (2.01%)	
SOF + DCV + RBV	3 (7.32%)	24 (16.1%)	
SOF + LDV + RBV	8 (19.5%)	37 (24.8%)	
SOF + SMV + RBV	11 (26.8%)	33 (22.1%)	
SMV + DCV + RBV	3 (7.32%)	4 (2.68%)	
3D	0 (0.00%)	5 (3.36%)	
Did receive previous HCV treatment	22 (53.7%)	84 (56.4%)	0.493
Months between LT and first anti-HCV treatment (months, median IQR)	40.8 [16.8;68.0]	45.3 [16.5;79.7]	0.152
Months between LT and DAA anti-HCV treatment (months, Median IQR)	72.8 [60.6;102]	78.2 [49.9;107]	0.238
Data at accomplishment of anti-HCV treatment			
Length of treatment with DAAs (weeks, median IQR)	12.1 [12.0;23.9]	12.4 [12.0;23.9]	0.999
SVR	38 (92.7%)	141 (94.6%)	0.239

Figure 1: HCV Treatment Outcomes for HIV-HCV coinfected (A) and HCV monoinfected (B) patients



Results

- **41 HCV/HIV** coinfected and **149 HCV** monoinfected LT patients were included in this study.
- **Table 1** shows their main clinical characteristics. No statistically significant differences were observed but older age in HIV-.
- **SVR12** rates were similar in coinfected and monoinfected patients: 93% *vs.* 95% (p=0.239). There were no differences in SVR rates according to the genotype or the degree of fibrosis.
- **Table 2** shows the 11 patients with treatment failure. Of them, 8 (3 HIV+ and 5 HIV-) presented virological failure and 3 (all of them HIV-) had premature discontinuation. Four out of 8 virological failures (50%) received a suboptimal combination (SMV+DCV±RBV).
- **DAA treatment was well tolerated**. Only one patient in the mono-infected cohort died due to decompensated cirrhosis.

Table 2: Characteristics of Patients with Treatment Failure

	1	2	3	4	5
Status	HIV+	HIV+	HIV+	HIV-	HIV-
HCV genotype	1	4	4	1	1
Metavir Fibrosis Stage	F0-F1	F4	F0-F1	NA	F4
Descompensation HCV	No	Yes	Yes	Yes	No
Treatment	SOF + SMV + RBV	SMV + DCV + RBV	SMV + DCV + RBV	SMV + DCV + RBV	SMV + DCV + RBV
Treatment after virological failure	SOF + LDV + RBV	SOF + SMV +DCV + RBV	SOF + LDV + RBV	SOF + SMV + RBV	No
SVR after second IFN-free treatment	Yes	Yes	Yes	Yes	--

	6	7	8	9	10	11
Status	HIV-	HIV-	HIV-	HIV-	HIV-	HIV-
HCV genotype	1	1	4	1	1	1
Fibrosis	F0-F1	F3	F3-F4	NA	F4	F4
Descompensation HVC	No	No	No	Yes	No	No
Treatment	SOF + LDV + RBV	SOF + DCV	SOF + SMV	SOF + DCV	SMV + DCV + RBV	SOF + LDV + RBV
Treatment after No SVR	SMV + DCV + RBV	No	No	No	SOF + LDV	SOF + DCV + RBV
SVR after No SVR	Ongoing	--	--	--	Yes	Ongoing

Conclusions

IFN-free regimens for treatment of post-LT HCV recurrence in HIV infected individuals are highly effective and well tolerated, with results comparable to HCV mono-infected patients.

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