Abstract # Q-133

Liver Stiffness in HIV/HCV-Coinfected Patients With and Without Sustained Virological Response Following Interferon Plus Ribavirin

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Background

We have previously shown that the achievement of a sustained virological response (SVR) after therapy with interferon plus ribavirin (IFN-RBV) reduces liver-related complications and mortality in HIV/HCV+ patients*

* *Berenguer, J. et al. Hepatology 2009;50:407-413*

Objective

To assess liver stiffness by transient elastography (TE) following IFN-RBV therapy and its association with antiviral response.

Design and Patient Selection

Desig	Ambispective cohort
GESIDA 3603/5607 Study Cohort Description	• 19 clinical centers in Spain • HIV/HCV+ patients who started IFN-RBV between Jan 2000 and Dec 2007 • Data were entered into a common database at each institution by means of an ad hoc online application. • FU (every 6 mo) assessed: Survival, Liver decompensation, HIV-related diseases, ART and lab results (CD4+ cells, HIV-VL, HCV-RNA), Liver biopsies (if any), and TE (if any). • In cirrhotics, alpha-fetoprotein (AFP) and US scan
Patient selection	From the cohort we selected patients with • a pretreatment liver biopsy (LB), and • a TE measurement after finalization of IFN-RBV RX
Study duration	From the date IFN-RBV was stopped to the last TE measurement.
Censoring date	June 30, 2010

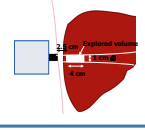
Sustained Virological Response

SVR was defined as an undetectable serum HCV-RNA level 24 weeks after discontinuation of therapy

Patients not fulfilling SVR criteria – including those who relapsed after achieving end of treatment response – were classified as non-SVR.

Transient Elastography

- TE was performed using a FibroScan® device (EchoSens, Paris, France).
- A median value, expressed in kilopascals (kPa), of 10 successful acquisitions was considered the representative measurement of liver stiffness.
- We considered 10 acquisitions with a success rate of at least 60% and an interquartile range (IQR) lower than 20% as representative measurements.
- Cut-off values for each stage of fibrosis*
  - Minimal fibrosis (F0-F1) : TE 7.1 kPA
  - Moderate fibrosis (F2): TE ≥ 7.1 and < 9.5
  - Advanced fibrosis (F≥3): TE ≥ 9.5
  - Cirrhosis (F4): TE ≥ 14.5



* *Castera L, et al. J Hepatol 2008; 48: 835 - 847*

Patient Disposition

1601 HIV/HCV+ patients in the cohort

→ 1154 (72%) had a baseline liver biopsy

→ 521 (32%) had a post-RX Representative TE measurement

Patients Characteristics

Characteristic	Patients (N =521)
Male sex-n (%)	383 (74)
Age-yr, median (IQR)	41 (38-44)
Prior injection drug use-n (%)	441 (85)
CDC category C-n (%)	121(23)
CD4 cells baseline-n/mm^3 median (IQR)	360 (249-492)
HIV RNA ≤ 50 copies/mL baseline-n (%)	347 (69)
HCV genotype 1-4-n (%)	372 (72)
HCV RNA ≥ 500,000 IU/mL	313 (72)
Liver fibrosis (METAVIR) -n (%)	
F0-F2	296 (57)
F3-F4	225 (43)
Anti-HCV therapy-n (%)	
Non-Peg IFN α2a – α2b + RBV	68 (13)
Peg IFN α2a – α2b + RBV	453 (87)
HAART during HCV treatment-n (%)	440 (84)
Response to anti-HCV therapy-n (%)	
No-SVR	407 (78)
SVR	114 (22)

TE results for patients with baseline F0-F2

Baseline LB with F0-F2	Non-SVR N = 227	SVR N = 69	*P*
Δ time (mo) to last TE *	61.5 (41.9-80.1)	52.2 (33.8-68.5)	.021
Last TE value *	6.9 (5.4-11.9)	5.3 (4.0-6.8)	<.001
≤7 kPa #	114 (50.2)	54 (78.3)	<.001
7.1-9.4 kPa #	39 (17.2)	6 (8.7)	.127
9.5-14.4 kPa #	35 (15.4)	4 (5.8)	.062
>=14.5 Kpa #	39 (17.2)	5 (7.2)	.066

* median (IQR), # n (%)

TE results for patients with baseline F3-F4

Baseline LB with F0-F2	Non-SVR N = 180	SVR N = 45	*P*
Δ time (mo) to last TE *	56.7 (40.5-76.8)	56.5 (34.6-73.2)	.558
Last TE value *	12.4 (8.1-21.8)	6.9 (5.6-9.9)	<.001
≤7 kPa #	28 (15.6)	23 (51.1)	<.001
7.1-9.4 kPa #	32 (17.8)	10 (22.2)	.638
9.5-14.4 kPa #	40 (22.2)	5 (11.1)	.145
>=14.5 Kpa #	80 (44.4)	7 (15.6)	.001

* median (IQR), # n (%)

Conclusions

Our results suggest that achievement of an SVR after IFN-RBV therapy in HIV/HCV-coinfected patients is associated with lower liver stiffness

These results, based on a non-invasive method, show that eradication of HCV improves liver fibrosis in HIV/HCV-coinfected patients.

Abstract

Background
We have previously shown that SVR following interferon plus ribavirin (IFN-RBV) therapy (RX) improves long-term clinical outcomes in HIV/HCV-coinfected patients. Our aim was to assess liver stiffness by transient elastography (TE) following IFN-RBV RX and its association with antiviral response.

Methods
From the GESIDA 3603/5607 Study Cohort—established to follow HIV/HCV-coinfected patients who started IFN-RBV RX between Jan 2000 and Dec 2007 in 19 centers in Spain with active follow-up (FU) every 6 months—we selected patients with a pretreatment liver biopsy (LB) and a TE measurement (kPa) after finalization of IFN-RBV RX. For purposes of analysis, we used the last TE measurement.

Results
Of the 1601 HIV/HCV-coinfected patients included in the cohort, 1154 had a baseline LB; of these, 521 had a post-RX TE measurement. TE results categorized by baseline LB values (F0-F2 and F3-F4) and RX response are shown in the table.

	Non-SVR N=227	SVR N=69	*P*
Baseline LB with F0-F2			
Δ time (mo) to last TE – median (IQR)	61.5 (41.9-80.1)	52.2 (33.8-68.5)	.021
Last TE value – median (IQR)	6.9 (5.4-11.9)	5.3 (4.0-6.8)	<.001
≤7 kPa – n (%)	114 (50.2)	54 (78.3)	<.001
7.1-9.4 kPa – n (%)	39 (17.2)	6 (8.7)	.127
9.5-14.4 kPa – n (%)	35 (15.4)	4 (5.8)	.062
≥14.5 kPa – n (%)	39 (17.2)	5 (7.2)	.066
	N=180	N=45	
Baseline LB with F3-F4			
Δ time (mo) to last TE – median (IQR)	56.7 (40.5-76.8)	56.5 (34.6-73.2)	.558
Last TE value – median (IQR)	12.4 (8.1-21.8)	6.9 (5.6-9.9)	<.001
≤7 kPa – n (%)	28 (15.6)	23 (51.1)	<.001
7.1-9.4 kPa – n (%)	32 (17.8)	10 (22.2)	.638
9.5-14.4 kPa – n (%)	40 (22.2)	5 (11.1)	.145
≥14.5 kPa – n (%)	80 (44.4)	7 (15.6)	.001

Conclusions
The achievement of an SVR after IFN-RBV RX in HIV/HCV-coinfected patients is associated with lower liver stiffness. These results, based on a non-invasive method, show that eradication of HCV improves liver fibrosis in HIV/HCV-coinfected patients.

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