Raltegravir switch improves Hepatitis C transaminitis in HIV-1 and Hepatitis C (HCV) co-infected individuals

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Introduction

Hepatitis C infection (HCV) is one of the most relevant co-morbidities seen in HIV-infected individuals as evidenced by the negative impact that HIV exerts on the course of HCV infection. Despite remarkable results on HIV infection alone, the impact of highly active antiretroviral therapy (HAART) on liver disease in co-infection remains unknown.

In chronic HCV/HIV co-infected individuals, Macias J et al [1] reported that Raltegravir (RAL)-containing HAART regimens were safe and Vispo E et al [2] reinforced this but found that this cohort treated with RAL experienced more liver enzyme elevations than HCV mono-infected individuals. We sought to explore the impact of RAL on aminotransferase (ALT) in chronic HCV/HIV co-infected individuals.

Methods

The departmental database was searched for all individuals attending our unit between January 2003 and April 2013, coinfected with HIV and hepatitis C who received a RAL - containing HAART regimen. Sixty nine HIV-HCV co-infected individuals switched to a RAL-containing regimen during this period. Eleven individuals who were receiving treatment for HCV, seven acutely infected individuals, eight individuals with negative HCV PCR at the time of RAL switch, and sixteen individuals with not enough data were excluded. 11 individuals were switched due to Hepatitis C infection, 13 individuals due to adverse drug reaction, 2 individuals due to low CD4 count and 1 individual was switched due to rationalization of therapy. Data on alanine aminotransferase (ALT) levels, HCV-RNA, CD4 count and HIV viral load levels were collected at 1 and 6 months pre-switch, time of switch and 1 and 6 months post-switch and were compared using the Kruskal-Wallis test.

Results

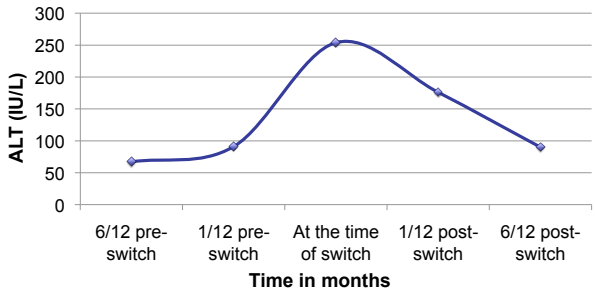
In total twenty-seven patients were included for analysis. Twenty-five were white Caucasian identified as MSM and none had a history of intravenous drug use and two were female. The median age was 43 years (range: 26-68). The median duration of HIV infection was 7 years (range 6 months – 25 years). The median documented period of HCV infection was 26 months (range: 9 months - 7 years) at the time of switch.

Figure 1: Demographics and baseline characteristics

Parameter	Median
Number of patients [n (M/F)]	27 (25/2)
Age (yr)	43 (26-68)
Hepatitis C Genotype (1/others)	24/3
CD4 cell count (cells/mm^3)	439 (187-867)
Undetectable viral load [n (%)]	23 (85)
Hepatitis C co-infection duration (months)	26 (9-84)
Exposure to HAART (months)	54 (3-192)
Fibrosis score (kPa)	6.5 (4.3-9.4)

A sustained improvement in ALT levels up to 6 months after switch to RAL was observed (Figure 2). Median ALT levels were 67 IU/L, 91 IU/L and 254 IU/L at 6 months prior to switch, 1 month prior to switch and at the time of switch respectively. These decreased significantly to 176 IU/L, (p=0.0226) and 90 IU/L (p=0.0138) 1 month post switch and 6 months post switch respectively. There was no significant difference in ALT change when switching from either PI or NNRTI-based regimens (Mann-Whitney U: p<0.05).

Figure 2: Median ALT levels in relation to RAL switch



The median Hepatitis C viral load level six months prior to switch was 203732 copies/mL and at the time of the switch it was 341783 copies/mL which decreased significantly to 224066 copies/mL 6 months after switch (p = 0.0426). Four individuals with a detectable HIV viral load prior to switch achieved virologic suppression 1 month after switch and this was maintained 6 months post switch. The median CD4 count at the time of switch was 439 cells/µL(range 87-867) . This increased to 533 cells/ µL (range: 105-944) and 614 cells/ µL (range: 248-853) at 1 month post switch (p = 0.4153) and 6 months post switch (p= 0.1445) respectively.

Discussion

In our study, the use of Raltegravir for 24 weeks in HIV and Hepatitis C co-infected individuals experiencing liver toxicity to HAART resulted in significant improvement in liver enzyme elevations. Sustained undetectable HIV viral loads and immune recovery was also observed in this cohort.

References:

1- Macias J et al, AIDS, 2004, Volume 18, Issue 5, pp 767-774

2- Vispo E et al, Journal of Antimicrobial Chemotherapy, 2010, Volume 65, Issue 3 Pp. 543-547