Journal of the International AIDS Society

Poster presentation

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Continuing evidence to support the role of early kinetic monitoring in predicting sustained viral response for HIV/HCV co-infected patients

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from Ninth International Congress on Drug Therapy in HIV Infection
Glasgow, UK. 9–13 November 2008

Published: 10 November 2008

Journal of the International AIDS Society 2008, **11**(Suppl 1):P276 doi:10.1186/1758-2652-11-S1-P276

This abstract is available from: http://www.jiasociety.org/content/11/S1/P276

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Background

Hepatitis C virus (HCV) is a major cause of chronic liver disease and requirement for liver transplantation. Shared acquisition risk factors mean that HIV co-infection is common. Co-infection has been shown to lead to faster progression of liver fibrosis. Combination therapy for HCV with pegylated interferon-alpha and ribavirin (pegIFN/RBV) results in comparable sustained virological response (SVR) rates for HIV/HCV co-infected patients vs. HCV mono-infected patients. Monitoring early viral kinetics, specifically baseline HCV viral load and week 4 HCV PCR can allow tailoring of treatment duration for specific patients and give prognostic information regarding primary treatment success.

Methods

98 HIV/HCV co-infected patients were commenced on treatment with pegIFN/RBV between 2001 and 2008. Early viral kinetic data was prospectively collected on 87/98 patients and these were included in our analysis. Genotype 2/3 infected patients were treated for 24 weeks. Weight-based dosing of RBV was used. Baseline characteristics and viral kinetics were analysed using Microsoft EXCEL and Epi-Info.

Summary of results

68/87 (78%) were male. 41/87 (47%) of patients had genotype 1/4 infection. On intention-to-treat analysis (ITT), overall SVR rate was 54%. Baseline mean HCV viral load was noted to be lower in those who achieved a SVR (6 × 106 iu vs. 14 × 106 iu; $p < 0.05$). On ITT analysis 38/87 (44%) achieved an undetectable HCV viral load at week 4 of treatment (rapid virological response [RVR]). Patients who achieved RVR were significantly more likely to achieve SVR (90% vs. 26%; $p < 0.05$. On-treatment analysis revealed that 100% of patients with RVR achieved SVR. Predictors of RVR were mean HCV viral load <6 × 106 at baseline ($p < 0.05$) and HCV genotype 2/3 ($p < 0.05$).

Conclusion

Monitoring of early viral kinetics can be used to accurately predict those patients who will achieve SVR, especially those for whom only 24 weeks of therapy is required.