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Rapid rebound in hepatitis B DNA in previously undetectable hepatitis B/HIV co-infected patients switching from tenofovir to entecavir therapy

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Purpose of the study

To describe the effects of switching from a tenofovir-based regimen to entecavir for hepatitis B (HBV) suppression in HIV/HBV co-infected patients with previously undetectable HBV DNA.

Methods

HBV/HIV co-infected patients who required discontinuation of tenofovir-based antiretroviral therapy due to nephrotoxicity and who were switched to entecavir for ongoing HBV suppression were assessed. Patients were followed prospectively with monthly monitoring of liver enzymes and HBV DNA.

Summary of results

Six patients switched from tenofovir to entecavir in 2007. All patients were male with a median age of 49 yrs (IQR 46–58 yrs) and a median CD4 count of 500 cells/mm3 (IQR 253–658 cells/mm3). All patients were hepatitis Be antigen positive, and had undetectable HBV viral loads while on tenofovir therapy prior to initiation of entecavir. 5/6 patients had prior HBV DNA samples available for genotypic testing; 100% revealed evidence of baseline lamivudine resistance (presence of L180 M + M204 V) but no evidence of entecavir-associated resistance mutations. Patients were treated with entecavir 1 mg daily or renally-adjusted equivalent. Lamivudine was maintained within the antiretroviral regimen of 5/6 patients. All patients experienced HBV rebound on entecavir. Median time to HBV virologic rebound was 2 months (range 1–11 months), and the median HBV DNA viral load at rebound was 226,012 copies/mL (IQR 6,771–492,237 copies/mL). Only one patient experienced a rise in ALT (to 143 IU/mL) at the time of initial HBV rebound. All patients maintained HIV virologic suppression during the substitution period and at the time of HBV rebound.

Conclusion

Entecavir has been shown to successfully suppress lamivudine-refractory HBV in mono-infected patients. Entecavir may be less potent than tenofovir at maintaining HBV suppression in HBV/HIV co-infected patients. These patients should be monitored closely for HBV rebound in the setting of therapeutic substitution of entecavir for tenofovir.