

Use of Tenofovir Disoproxil Fumarate and the Monitoring of Renal Function among HIV-1 Infected Patients in a Resource-limited Setting

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ABSTRACT

Tenofovir disoproxil fumarate (TDF) has recently been available in Asia and renal dysfunction in patients receiving TDF has been reported. This study was aimed to evaluate the use of TDF and the monitoring of renal function among HIV-1 infected patients in a resource-limited setting. We evaluated the use of TDF in a cohort of HIV-1 infected patients who were initiated TDF. Estimated creatinine clearance (CrCl) by Cockcroft-Gault calculation was used. We studied 205 patients with a mean age of 44.3 years and 61.5 percent were male. Mean body weight was 58.5 kgs. Median CD4 cell count was 389 cells/mm³. Of all, 22 percent had HBV co-infection and 8 percent had HCV co-infection. Prior to initiation of TDF, serum creatinine (Cr) and urinalysis were tested in 89 percent and 21 percent of patients, respectively. At baseline, mean CrCl was 85.7 ml/min and only 1 percent of patients had Cr >1.5 mg/dl; 4 percent of patients had proteinuria. After initiation of TDF, 58 percent of patients had been followed up for serum Cr at a median duration of 4 months after initiation of TDF; mean CrCl was 82.7 ml/min and 3 percent of patients had Cr >1.5 mg/dl. Both CrCl and Cr were not significantly different from baseline ($p>0.05$). From linear regression analysis, only baseline Cr was associated with CrCl at follow-up after TDF initiation (Beta=0.844, $p<0.001$). In conclusion, TDF is commonly used for substitution of d4T and AZT when patients develop lipodystrophy in resource-limited setting. It appears that assessment of renal function prior to initiation of TDF and monitoring of renal function after initiation of TDF are inadequate and has to improve. Baseline Cr is a good predictor for CrCl change after initiation of TDF. (*J Infect Dis Antimicrob Agents* 2010;27:77-84.)

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