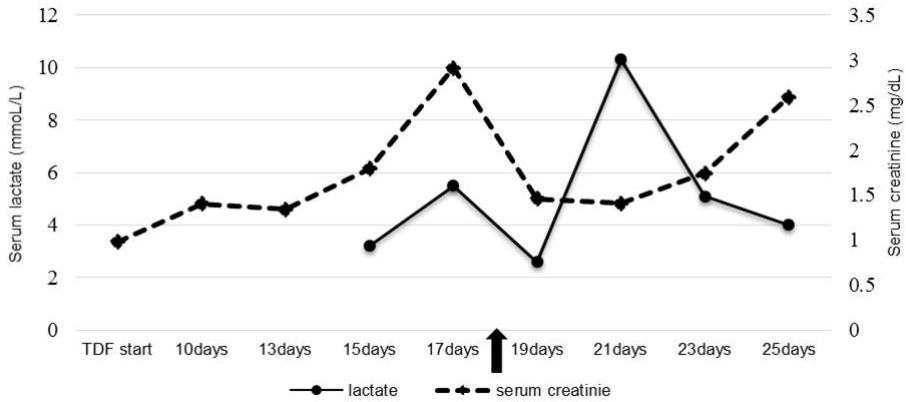
Fatal lactic acidosis in HBV-associated cirrhosis treated with tenofovir therapy: A case report

Department of Internal Medicine, Hanyang University School of Medicine, Seoul, Republic of Korea

*Tae Yang Jung, Dong Hwi Rim, Dae Won Jun

Introduction: Recently tenofovir disoproxil fumarate (TDF) has been widely used as an effective first-line therapy for chronic hepatitis B (CHB) infection. While TDF demonstrates successful viral suppression, the possibility of emerging lactic acidosis after TDF administration in human immunodeficiency virus (HIV) patients has been proposed. However, TDF therapy-induced lactic acidosis has been never reported in CHB-monoinfected patients and just warned about its possibility of danger. Here, we report the first case of TDF-induced fatal lactic acidosis in CHB associated with decompensated cirrhosis patients treated with tenofovir-therapy without other antiretroviral medication. A 59-year-old man received tenofovir antiviral treatment for chronic hepatitis B. After 10 days treatment, he developed nausea, vomiting and abdominal pain. The patient found high anion gap acidosis with elevated lactate level (pH 7.341, pCO2 29.7 mmHg, HCO3- 15.6mmHg, lactate 3.2mmol/L, anion gap 15.4 mEq/L). Conclusion After we recognized developing lactic acidosis, instantly stopped tenofovir and treated lactic acidosis, but the patient died. This is the first documented case with fatal lactic acidosis caused by tenofovir-therapy in CHB.



Comparison of Renal safety of Tenofovir and Entecavir in Patients with CHB : SR and meta

[1]Department of Internal Medicine, Hanyang University College of Medicine, Seoul, Korea

*Tae Yang Jung[1], Hyo Young Lee[1], Dae Won Jun[1]

Background/Aims: Recent meta-analyses showed similar efficacy of TDF and ETV in CHB patients. However there is a paucity of studies on comparing the long term renal effect of these two drugs. **Methods:** Two investigators independently searched the Cochrane library, MEDLINE, and EMBASE databases was up until March 2016, for randomized controlled trials (RCT) and non-randomized studies (NRSs) using key words, with; additional references obtained from relevant article bibliography. **Results:** Seven NRSs (2312 participants) met the inclusion criteria and were included in this meta-analysis. There was a higher increase in serum creatinine in TDF compared to ETV group at 6 months ($Z = 9.16$; $p < 0.00001$), 12months ($Z = 2.64$; $p < 0.00001$) and 24 months ($Z = 2.29$; $p = 0.02$) respectively (Figure 1). The absolute change value of creatinine was 0.07, 0.07 and 0.04mg/dl respectively. The changes of serum eGFR were also increased in TDF group at 6 months ($Z = 2.65$; $p = 0.008$), 12months ($Z = 2.29$; $p = 0.02$) and 24 months ($Z = 4.54$; $p < 0.00001$) respectively. The absolute change value of eGFR was 5.0, 6.77 and 9.66 respectively. **Conclusions:** In CHB patients, TDF resulted in a statistically significant increase in serum creatinine and eGFR by comparison with ETV. Since the absolute increase is low for parameters up to 24-month follow-up, clinical significance of the findings is unclear in the short-term. However, further studies are needed to examine the long-term renal effect of TDF since antiviral therapy is generally long-term to life-long for CHB in indicated patients.

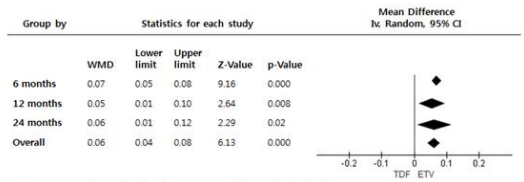


Figure 1-1. Forest plot for the change of serum Creatinine

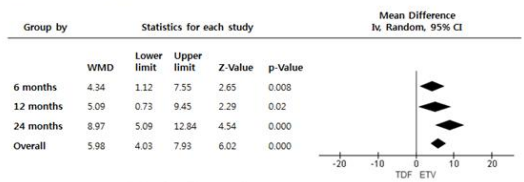


Figure 1-2. Forest plot for the change of serum eGFR