

Abstract

Background: HIV Anti-retroviral therapy (ART) related liver injury (ARLI) is associated with elevated liver transaminases (AST/ALT), potential liver failure and death. It is commonly associated with nevirapine. Identification of pre-clinical risk factors is important in its management to prevent unnecessary morbidity, ART drug discontinuation and mortality. Hepatitis B and C viruses (HBV, HCV), nevirapine and protease inhibitors, low body mass index, low platelet count and deranged renal functions prior ART initiation are associated with development of hepatotoxicity.

Objective: To describe anti-retroviral-related liver injury (ARLI) in HIV positive patients, their CD4+ cell counts, biochemical and viral markers and liver ultrasound.

Design: Prospective, descriptive, consecutive entry study.

Setting: Kisumu District Hospital liver clinic/medical outpatient clinic, Nairobi Rheumatology Clinic and Mater Hospital.

Main outcome measures: Biochemical, ultrasound and virological characteristics

Subjects: Eleven patients with HIV infection and ARLI .

Results: Eleven patients with M:F ratio of 2 : 9 were included with a mean age and CD4+ cell count of 36.5 years (27-45) and 69.3 cells/µl (11-199) respectively. The low CD4+ cell count indicates severe immunosuppression. Mean ART duration use was 11.1 weeks (3-19 weeks). Mean AST, ALT, INR, ALP, and direct bilirubin was 273.1 IU/L (40-869), 337 IU/L (65-1030), 2.77 (2.27-3.9), 728.5 IU/L (352-2353) and 174.57 µmol/L (59.0 -530.8) manifesting severe liver injury. Mean albumin and creatinine were 25.2 g/dl (16.0-32.4) and 162.25 µmol/L (69.8 - 247). Mean platelet count was 128.0X10⁶/L (20-292). Mean BMI was 18.40 Kg/M² (16.0 - 31.14). Ultrasound was normal in two, hepatomegally and ascites in six, liver cirrhosis in two and gallstones and hepatomegaly in one. Mean random blood sugar was normal at 5.23 mmol/L (3.9 - 7.4). Three cases had HBV infection (all HBsAg positive, 2 anti-HBc IgG and IgM positive and 1 e antigen positive). Two patients died of fulminant hepatic failure.

Conclusion: ARLI is recognised. The patients had severe immunosuppression and severe liver injury secondary to the ARTs. Risk factors for liver injury should be evaluated before initiating anti-retroviral therapy (ART).