

Effects of Tenofovir Disoproxil Fumarate on the Renal Sufficiency of HIV Positive Patients

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Abstract : Background: Tenofovir disoproxil fumarate (TDF) is a nephrotoxic drug and has been proven to contribute to renal insufficiency necessitating intensive monitoring and management of adverse effects arising from prolonged exposure to the drug. TDF is one of the preferred first-line drugs used in combination therapy in most regions. There are estimated 300 000 patients being initiated on the Efavirenz/TDF/Emtricitabine first-line regimen annually in South Africa. It is against this background that this study aims to investigate the effects of TDF on renal sufficiency of HIV positive patients. Methodology: A retrospective quantitative study was conducted, analysing clinical charts of HIV positive patient's older than 18 years of age and on a TDF-containing regimen for more than 1 year. Data were obtained from the analysis of patient files and was transcribed into Microsoft® Excel® spreadsheet. Extracted data were coded, categorised and analysed using STATA®. Results: A total of 275 patient files were included in this study. Renal function started decreasing after 3 months of treatment (with 93.5% patients having a normal EGFR), and kept on decreasing as time progressed with only 39.6% normal renal function at year 4. Additional risk factors for renal insufficiency included age below 25, female gender, and additional medication. Conclusion: It is clear from this study that the use of TDF necessitates intensive monitoring and management of adverse effects arising from prolonged exposure to the drug. The findings from this study generated pertinent information on the safety profile of the drug TDF in a resource-limited setting of a public health institution. The appropriate management is of tremendous importance in the South African context where the majority of HIV positive individuals are on the TDF containing regimen; thus it is beneficial to ascertain the possible level of toxicities these patients may be experiencing.

Keywords : renal insufficiency, tenofovir, HIV, risk factors

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