RENAL IMPAIRMENT IN HIV-1 INFECTED PATIENTS RECEIVING ANTIRETROVIRAL REGIMENS INCLUDING TENOFOVIR IN A RESOURCE-LIMITED SETTING

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Abstract. A retrospective cohort study was conducted among HIV-1 infected patients taking tenofovir as part of an anti-HIV drug regimen in a resource-limited setting in Thailand. One hundred thirty patients with a mean±SD age of 39.7±7.4 years, of whom 55% were male, were included in the study. Fifty-eight (45%), 48 (37%), and 24 (18%) patients concurrently received nevirapine-based, efavirenz-based, and protease inhibitor (PI)-based regimens, respectively. The median (IQR) value for serum creatinine was 0.8 (0.6-0.9) mg/dl, for eGFR was 103 (96-120) ml/min/1.73 m^2 and for CD4 was 302 (194-511) cells/mm^3 at the time of tenofovir initiation. At 3-6 months, the median (IQR) eGFR was 100 (88-117) ml/min/1.73 m^2 (p=0.002, compared to baseline). The proportions of patients with an estimated glomerular filtration rate (eGFR) <30 ml/min/1.73 m^2 at baseline and 3-6 months were 0% and 2%, respectively (p <0.001). At 6-months follow-up, 2 patients (1.4%) were diagnosed with acute renal failure at 3 weeks and 9 weeks after tenofovir use, respectively. Both patients received a boosted PI in the regimen. Overall, the incidence of acute renal failure was 0.26 per 100 person-months. Renal function progressed to irreversible renal failure in one patient. In summary, tenofovir-associated renal impairment is not uncommon in a real-life practice. This report highlights the potentially irreversible adverse effect of this agent, particularly in patients with vulnerable kidneys and concomitant use of tenofovir and boosted PI.

Keywords: HIV, tenofovir, renal impairment, toxicity, Thailand

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