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Abstract P218–Table 1. Pre- and post-switch eGFR slopes amongst individuals who switch from either atazanavir or lopinavir to darunavir

		Mean change in eGFR per year (95% CI)		
	N	Pre-switch	Post-switch	p
All switchers				
Atazanavir	676	−0.97 (−1.35, −0.59)	1.06 (0.69, 1.44)	<0.001
Lopinavir	1015	−0.51 (−0.90, −0.12)	0.43 (0.14, 0.71)	<0.001
Rapid eGFR decline (>5 mL/min/1.73 m2)				
Atazanavir	49	−14.74 (−18.79, −10.69)	2.55 (0.50, 4.61)	<0.001
Lopinavir	42	−12.99 (−15.68, −12.30)	0.63 (−0.85, 2.11)	<0.001
eGFR <60 mL/min/1.73 m^2				
Atazanavir	87	−6.59 (−8.69, −4.48)	2.68 (1.23, 4.13)	<0.001
Lopinavir	66	−2.77 (−4.08, −1.46)	2.13 (0.28, 3.99)	<0.001
Received TDF prior to switch				
Atazanavir	478	−1.08 (−1.52, −0.64)	1.47 (1.01, 1.93)	<0.001
Lopinavir	605	−0.90 (−1.09, −0.52)	0.48 (0.13, 0.82)	<0.001
Did not receive TDF prior to switch				
Atazanavir	198	−0.27 (−0.93, 0.40)	0.69 (0.04, 1.34)	0.051
Lopinavir	410	0.35 (−0.87, 1.57)	0.55 (0.05, 1.05)	0.777
Did not discontinue TDF at the time of switch				
Atazanavir	530	−0.42 (−0.86, 0.02)	0.38 (0.07, 0.69)	0.006
Lopinavir	901	−0.44 (−0.74, −0.14)	0.52 (0.27, 0.77)	<0.001

and more rapid eGFR increases post-switch amongst those exposed to TDF, compared to those unexposed. Further, there was no significant difference in pre- and post-switch eGFR slopes amongst those not receiving TDF. Significant changes in eGFR slopes were still observed following switch to DRV in those who did not also discontinue TDF at the time of the switch (Table 1).

Conclusions: Improved kidney function was observed in patients who switched from ATV or LPV to DRV, particularly amongst those with renal dysfunction and those exposed to TDF prior to switching, suggesting that DRV may have a more favourable renal safety profile.

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Renal health after long-term exposure to tenofovir disoproxil fumarate (TDF) in HIV/HBV co-infected individuals in Sub-Saharan Africa: results from the HEPIK cohort

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Introduction: Tenofovir is recommended for the antiretroviral treatment of HIV-positive adults in Sub-Saharan Africa, including individuals co-infected with HBV. Use of TDF is gradually expanding in the region, where evidence indicates a high burden of pre-existing renal disease. This cross-sectional analysis evaluated the renal profile of HIV/HBV co-infected subjects receiving long-term TDF as part of ART in Kumasi, Ghana.

Methods: Patients underwent a comprehensive clinical and laboratory assessment, including serum biochemistry with creatinine and eGFR (CKD-EPI), urinary protein-to-creatinine ratio (uPCR), albumin-to-protein ratio (uAPR; if uPCR ≤20 mg/mmol), glycated haemoglobin (HbA1c), urinary schistosoma antigen, full blood count and CD4 cell count, and HIV-1 RNA and HBV DNA load. Tubular proteinuria (TP) was defined as a uPCR >20 mg/mmol in the absence of significance albuminuria (uAPR <0.4 mg/mmol).

Results: The study comprised 101 subjects (66% women; mean age 45 years) that had received ART for median 7.9 years (IQR 6.0–9.2) and TDF for median 4.1 years (3.9–4.3), 90% were on efavirenz (n = 87) or nevirapine (n = 4) and 10% were on lopinavir/ritonavir (LPV/r). CD4 counts were median 572 (383–716) cells/mm^3. Overall 21% had detectable HIV-1 RNA (>40 copies/mL), with median levels of 4.2 (2.1–5.1) log10 copies/mL; 17% had detectable HBV DNA (>15 IU/mL), with median levels of 2.4 (1.7–3.4) log10 IU/mL. Blood pressure was raised in 35% of subjects and 10% had grade 3 elevations; 6% had diabetes (HbA1c ≥48 mmol/mol and/or specific treatment); 17% had a positive schistosoma test. Median uPCR was 13 (13–20) mg/mmol; 28% had uPCR ≥20 and 13% >50 mg/mmol. TP was detected in 16% of participants and was independently predicted by female gender (adjOR 10.5; 95% CI 1.3–88; p = 0.03) and hypertension (adjOR 2.1 per grade increment; 95% CI 1.3–3.5; p < 0.01). Five of 13 patients with uPCR >50 mg/mmol had uAPR <0.4, and this was associated with diabetes (OR 27; 95% CI 2.81–265; p < 0.01). Median eGFR was 103 (91–115) and <60 mL/min/1.73 m^2 in 4%. When comparing the eGFR measured after 1 year of TDF with the current one, the mean eGFR change was −2.6 mL/min/1.73 m^2/year (SD ± 4.3), and independently predicted by LPV/r use (p = 0.05) and a suppressed HBV DNA load (p = 0.01).

Conclusions: Subjects on stable ART in Ghana have a substantial prevalence of comorbidities that can impact on renal function. The findings point to an urgent need to define ascertainment and management strategies for renal health in these populations.