Abstract supplement

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TREATMENT STRATEGIES
PREP IN HIGH INCOME
ANTIRETROVIRALS: PROGRESS
PHARMACOKINETICS
AND DUG INTERACTIONS
CO-INFECTIONS AND MALIGNANCIES
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KEEPING THE PATIENT IN THE CENTRE OF QUALITY CARE
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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

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

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.

**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), 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 significant 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/mm³. 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 m² 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 m²/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.