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# Abstract supplement

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neuropsychiatric (n = 3, 19%), skin/mucoses (n = 2, 13%), and kidney (n = 1, 6%) for EVG; and neuropsychiatric (n = 7, 88%), muscular (n = 3, 38%), and systemic (n = 3, 38%) for DTG. Some specific toxicities such as neuropsychiatric (p = 0.0046) or systemic (p = 0.0224) were more common with dolutegravir. Age (HR 1.04, 95% CI 1.02–1.07, p = 0.0007) was the only independent risk factor for early discontinuation due to toxicity. Planned sensitivity analyses confirmed previous results.
**Conclusions**: EVG tended to be less discontinued in general, but discontinuations due to toxicity were more common with EVG than with RAL or DTG. Neuropsychiatric toxicity leading to drug discontinuation was more frequently associated with DTG than with RAL or EVG.

## P229

### Erythrocyte inosine triphosphatase activity: a potential biomarker for adverse events during combination antiretroviral treatment for HIV

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**Introduction**: Predicting whether adverse events (AEs) will occur in combination antiretroviral therapy (cART) for patients infected with HIV would be a valuable tool in the choice of cART regimens. A biomarker predicting AEs in other diseases is the enzyme inosine 5'-triphosphate pyrophosphohydrolase (ITPase). A decreased ITPase activity is associated with a reduced risk of anaemia in patients treated for hepatitis C, but with an increased risk of AEs in patients treated with thiopurines. The purine analogues abacavir, tenofovir and didanosine that are part of the backbone in most cART regimens are a potential substrate for ITPase. Here, we determined whether ITPase activity may be used as biomarker for occurrence of AEs during tenofovir, abacavir or didanosine use.
**Materials and methods**: In 393 adult HIV-seropositive patients (1464 cART regimens), AEs were defined as events that led to stop or change of cART regimen. Clinical and demographic data were retrieved from the Dutch HIV monitoring foundation and the medical records. ITPase activity in erythrocytes was measured. ITPase activity $\geq$4 mmol IMP/mmol Hb/hour was considered as normal. Logistic regression analysis with repeated statement and weighted by total duration of cART therapy and cumulative duration of purine analogue therapy was used to determine odds ratios (ORs) for developing AEs.
**Results**: Two hundred and five patients (52.2%) had an ITPase activity $<$4 mmol IMP/mmol Hb/hour. In cART regimens containing tenofovir a decreased ITPase activity was associated with a reduction in AEs (p = 0.01; OR 0.65), a longer mean regimen duration (p = 0.001) and significantly less often switching of medication secondary to AEs (p = 0.02) compared to normal ITPase activity. Moreover, of all the renal AEs that occurred in patients using tenofovir 63.6% occurred in the patients with normal ITPase activity (p = 0.04). In contrast, in cART regimens containing abacavir, a decreased ITPase activity was associated with increased switching of medication due to AEs (p = 0.03) and significantly more AEs occurred compared to regimens prescribed in normal ITPase activity (crude p = 0.02; after logistic regression p = 0.08; OR 1.69). No association was found for ITPase activity and occurrence of AEs in didanosine-containing regimens.
**Conclusions**: Here, we show that ITPase activity is a potential biomarker for AEs in patients using tenofovir and abacavir in their cART regimen. ITPase enzyme activity $<$4 mmol IMP/mmol Hb/hour seems to be protective against occurrence of AEs in cART regimens containing tenofovir, while it leads to an increase in AEs in cART regimens containing abacavir.

## P230

### Dolutegravir tolerability in clinical practice: results from the SCOLTA cohort

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**Introduction**: In clinical trials dolutegravir (DTG) proved efficacious and safe in naïve and experienced patients. However, a recent study in a real-life setting reported an unexpectedly high rate of discontinuation mainly due to central nervous system (CNS) events.
**Materials and methods**: The SCOLTA project is a prospective, observational, multicentre study created to assess the incidence of adverse events in patients receiving new antiretroviral drugs. We aimed to further investigate the tolerability of DTG in a cohort of HIV-infected patients in clinical practice.
**Results**: A total of 358 HIV-infected patients were included, 266 (74.3%) males and 113 (31.6%) were heterosexuals. CDC stage was A in 156 (43.6%) patients. Mean age at enrolment was 46.9 ± 11.4 years, mean CD4 cell count 520 ± 383 cells/μL and mean HIV RNA 2.0 ± 1.9 log10 copies/mL. Eighty-three (23.2%) patients were HCV Ab+ and 60 (16.7%) were naïve. After a median follow-up of 7 (IQR 6–11) months, 20 (4.5%) therapy interruptions were reported. These were caused by virologic failure in four (1.1%), death in three (0.8%), therapy simplification in two (0.5%), adverse events in eight (2.2%), lost to follow-up and other reason in one case each. Among adverse

events-related interruptions two were grade ≥3 reactions, one acute renal failure and one rash, and six grade 1–2, one creatinine increase, one myalgia + rhabdomyolysis, one transaminase increase, two CNS events (one somnolence and one headache) and one gastrointestinal (vomiting). Among patients with available follow-up data at week 24 and 48, we found a significant reduction in eGFR at both follow-up times ( −11.7 mL/min/1.73 $m^2$, p < 0.0001 and −9.1 mL/min/1.73 $m^2$, p = 0.001, respectively). Regarding lipid profile, we observed a non-significant reduction in total cholesterol at week 24 and 48 and a slight increase in HDL cholesterol. Triglycerides level showed a significant reduction at week 24 ( −22.0 mg/dL, p = 0.015) and a further decrease at 48 ( −9.4 mg/dL, p = n.s.). Finally, both AST and ALT levels decreased during follow-up.

**Conclusions**: Dolutegravir was well tolerated during follow-up as confirmed by the low rate of both total DTG-based regimen discontinuations (4.5%) and adverse events-related interruptions (2.2%). eGFR showed an initial reduction but a stabilization during follow-up as already shown in clinical trials, possibly attributable to the inhibition of the OCT-2 creatinine transporter in the proximal tubular cells. Dolutegravir was also associated with an improvement of the lipid profile with significant reduction of triglycerides.

## P231

### Prevalence, spectrum, predictors and screening of clinically significant chronic liver disease associated with didanosine use in HIV-infected individuals

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**Introduction**: Chronic liver disease (CLD) is a leading cause of morbidity amongst HIV-infected individuals. An increasing burden is due to non-viral causes, including non-alcoholic fatty liver disease (NAFLD) and potentially hepatotoxic ARVs [1]. Exposure to the antiretroviral didanosine (DDI) can result in non-cirrhotic portal hypertension (NCPH) [2,3]. Our aim was to assess the spectrum of CLD associated with DDI use.

**Methods**: This prospective study (December 2014–April 2016) included HIV-infected individuals exposed to DDI for ≥6 months. Those without liver imaging (ultrasound Scan (USS), computed tomography (CT) or magnetic resonance imaging (MRI)) within 1 year underwent liver USS. Hepatic fibrosis was determined by assessment of liver stiffness measurement (LSM) using FibroScan®. Prior liver biopsy, laboratory and endoscopy results were reviewed and likely aetiology identified. Clinically significant CLD was defined by one or more of the following: portal hypertension (PHT), ≥F2 fibrosis (liver biopsy/ FibroScan®), LSM ≥9.5 kPa (in HIV mono-infected without NALFD or alcohol excess), moderate–severe steatohepatitis on liver biopsy.

**Results**: Amongst our cohort of 2300 patients, 271 (11.8%) had ≥6 months DDI exposure. Complete data were available in 162. Individuals were a mean of 55 years old (range 27–83), predominately male (92.6%) and Caucasian (93.8%), HIV infected (mean 267, range 33–381 months) and taking ARVs (mean 237, range 21–544 months) for a prolonged period and most were virologically suppressed (85.2%). Current hepatitis C and B infection was present in 5.5% and 9.3%, respectively. PHT was present in 9.1%, with overall NCPH prevalence 3.1%. All individuals with NCPH had been previously identified by biopsy. Amongst individuals with NCPH, with LSM, 50% were abnormal, median 8.2 kPa (IQR 6.7–13.2). Individuals with NCPH had almost three times the median exposure to DDI (92 months vs. 34 months, p = 0.067) and significantly lower current mean CD4 count (421 cells/$mm^3$ vs. 676 cells/$mm^3$, p = 0.03), despite no difference in CD4 nadir (187 cells/$mm^3$ vs. 193 cells/$mm^3$, p = 0.54) or virological suppression ( <40 copies/mL; 80% vs. 85%, p = 0.75). The prevalence of clinically significant CLD was 29.6%, with over half due to NAFLD.

**Conclusions**: Approximately 30% of HIV-infected individuals with DDI exposure have clinically significant CLD related to NAFLD (16.7%) and NCPH (3.1%). Fifty percent of those with NCPH had abnormal LSM and hence FibroScan® lacked utility in either predicting NCPH or excluding fibrosis/cirrhosis in individuals with NCPH. Our preliminary results support screening for CLD in DDI-exposed individuals and emphasize the under-recognized burden from NAFLD.

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## P232

### Neurocognitive performance and psychological symptoms improve in HIV-positive patients switching from an efavirenz (EFV)- to a rilpivirine (RPV)-based cART

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**Introduction**: Neurocognitive impairment (NCI) is an important issue in the HIV setting, even though cART has reduced prevalence in recent years. Treatment with EFV may cause well-recognized neuropsychiatric side effects, but association with NCI remains controversial. Aim was to assess neurocognitive performance and psychological symptoms in patients switching from EFV to RPV.

**Materials and methods**: Single-centre prospective evaluation of patients switching from EFV to RPV in 2015. All patients underwent neuropsychological assessment (NPA), before (T1) and after (T2) the switch. NPA was carried out through a standardized and comprehensive battery of 14 tests (five different domains). Furthermore, the Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI) and Sleep Disorders Questionnaire were administered. Patients were classified as having NCI if they scored >1 standard deviation (SD) below the normal mean in at least two tests, or >2 SD in one test. HIV-associated neurocognitive disorders (HAND) were classified according to Frascati's criteria. Paired Wilcoxon and McNeamar tests were used for statistical comparisons.

**Results**: Forty-two patients were evaluated: 83.3% male; median age 46 years; 52.4% MSM; median education 13 years; 14% HCV-Ab positive; CD4/$mm^3$ nadir was <200 in 35.7%; median CD4 were 555 and 621 cells/$mm^3$ at T1 and T2, respectively; HIV RNA was <40 copies/mL in 95.2% and 97.6% of patients at T1 and T2. At T1, all patients were receiving an EFV-based cART (92.8% with FTC + TDF and 7.2% with ABC + 3TC). After switch, all patients received coformulated TDF + FTC + RPV. Median time between the two tests was 6.6 months (IQR 4.2–10.9). At T1, 11 patients (26.2%) had NCI (mild neurocognitive disorder (MND) 2.4%; asymptomatic neurocognitive impairment (ANI) 16.7%; not HIV-related cognitive disorder 7.1%), whereas at T2, only seven patients (16.7%) presented NCI (ANI 11.9%; cognitive disorder not HIV-related 4.8%). NPA improved in five patients (11.9%),