clinical cases DDIs

Date of report 11 Jul 2022

Reported case interaction between **Efavirenz** and **Melissa officinalis**

Drugs suspected to be involved in the DDI

Efavirenz

Daily Dose
600 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
Ongoing

Melissa officinalis

Daily Dose
600 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
Unknown

Complete list of drugs taken by the patient

Antiretroviral treatment

Efavirenz
Abacavir/Lamivudine

Complete list of all comedications taken by the patient, included that involved in the DDI

Melissa officinalis

Clinical case description

Gender

Female

Age

55

eGFR (mL/min)

>60

Liver function impairment

No

Description

This is a case of female patient, 55 years old, Caucasian, with no liver and kidney impairment, high 165 cm, weight 88 kg, BMI=32.3 kg/m^2 (obese). HIV-1 infection was diagnosed in 2010 and soon after cART was initiated as follows: efavirenz (600 mg QD) + fixed-dose combination of two NRTIs: abacavir (ABC, 600 mg) and lamivudine (3TC,300 mg), achieving undetectable HIV-1 RNA and CD4+ T-cells count above 600 cells/mm^3. In 2019, she was diagnosed with metabolic syndrome. Together with cART patient selfprescribed herbal supplement - lemon balm (Melissa officinalis), known as a herbal supplement for the treatment of insulin-resistance and dyslipidemia. She was taking lemon balm tablets 300 mg BID standardized to 7% Rosmarinic acid and 14% Hydroxycinnamic acids. According to the literature review, there were not much data about DDIs in humans on cART and

lemon balm. Thus, we performed TDM using validated high-performance liquid chromatography (HPLC) assay and it has shown efavirenz plasma concentration of C_{trough} = 1907.349 ng/mL. Pharmacokinetic variability of the nonnucleoside reverse transcriptase inhibitor efavirenz has been documented in the literature and a plasma therapeutic range of 1000–4000 ng/mL has been established for the efavirenz. Thus, we concluded that there is no clinically relevant drug-drug interaction between lemon balm and efavirenz. Furthermore, in the same patient HIV RNA pVL was undetectable.

Clinical Outcome

No unwanted outcome

Editorial Comment

Despite the lack of information on how Melissa officinalis may interact with antiretroviral drugs, this clinical case suggests no relevant impact of Melissa officinalis on Efavirenz plasma concentrations.

University of Liverpool Recommendation

N/A