clinical cases DDIs

Date of report 11 Jul 2019

Reported case interaction between **Raltegravir** and **Dietary supplements**

Drugs suspected to be involved in the DDI

Victim
Raltegravir

Daily Dose
800 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
March 1, 2017

End date
Ongoing

Perpetrator
Dietary supplements

Daily Dose
10 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
Unknown

Complete list of drugs taken by the patient

Antiretroviral treatment

Emtricitabine/Tenofovir-DF
Raltegravir

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

Caolin clay

Clinical case description

Gender

Male

Age

45

eGFR (mL/min)

>60

Liver function impairment

No

Description

45 years old HIV+ Caucasian man with no liver or kidney impairment. HIV-1 infection was diagnosed in 2011 and ART was initiated in 2017 with raltegravir (400 mg BID) + emtricitabine /tenofovir disoproxil fumarate (200/300 mg QD), achieving undetectable HIV-1 RNA and CD4+ T-cells count above 600 cells/mm3. In July 2018 he presented with low level viremia (HIV-1 RNA 170 copies/mL). He referred good adherence to ART. TDM was performed and the raltegravir plasma Ctrough was 19 ng/mL (expected Ctrough for 400 mg BID 68.6 ng/mL; raltegravir protein-binding adjusted IC95 16 ng/mL). The patient referred that he had been taking white clay powder, specifically white Caolin Clay, during the last 2 months (once daily 2 hours before ART dose). The physician indicated to withdraw this detox

treatment and 3 months later plasma HIV-1 RNA was undetectable.

Clinical Outcome

Loss of efficacy

Drug Interaction Probability Scale (DIPS)

Score

6 - Probable

Editorial Comment

This is an interesting case that reinforces the importance of taking into consideration the potential interactions between antiretroviral drugs and other products such as herbal medicines, nutritional supplements or other chemical products. When integrase inhibitors are used, the interaction with divalent cations must be considered. The chemical formula of White clay is Al2Si2O5(OH)4 (Aluminum silicate hydroxide). The presence of Aluminum in this product might explain the interaction. Taking an aluminum and magnesium antacid within 6 hours of raltegravir administration significantly decreases raltegravir plasma levels and therefore, co-administration of raltegravir with aluminum and/or magnesium containing antacids is not recommended. The same recommendation should be made when other aluminum and/or magnesium containing are used.

University of Liverpool Recommendation

N/A