clinical cases DDIs

Date of report 16 Dec 2019

Reported case interaction between **Ritonavir** and **Rifabutin**

Drugs suspected to be involved in the DDI

Perpetrator
Ritonavir

Daily Dose
100 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Jan. 1, 2008

End date
Ongoing

Victim
Rifabutin

Daily Dose
150 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
April 1, 2019

End date
Oct. 1, 2019

Complete list of drugs taken by the patient

Antiretroviral treatment

Darunavir (with Ritonavir or Cobicistat)
Ritonavir
Emtricitabine/Tenofovir-DF
Raltegravir

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

Cotrimoxazole, folinic acid, antabus, vortioxetine, beclomethasone/salmeterol, tiotropium, pregabaline, alprazolam. Rifabutin, isoniazid, pyrazinamide, ethambutol

Clinical case description

Gender

Female

Age

57

eGFR (mL/min)

>60

Liver function impairment

Yes

Child-Pugh

Child-Pugh A

Description

57 year-old female with HIV infection known since 1995. Extensive exposure to antiretroviral drugs. Suboptimal treatments (mono-dual therapies), and intermittent adherence leading to successive virological failures and progressive accumulation of resistance mutations to antiretrovirals (extensive resistance to NRTI, NNRTI and most PI). In April 2019 HIV plasma viral load was <40 copies/mL and CD4 count was 55 cels/mm3, while she was on treatment with Darunavir/ritonavir 1200/100 mg qd OD, FTC/TAF 200/10

mg OD, and Raltegravir 1200 mg OD (the patients only accepts treatment with a OD regimen). At that time, she was diagnosed with pulmonary tuberculosis. Since the treating physician considered the PI to be maintained in the cART regimen, TBC was treated with rifabutin instead of with rifampin. Rifabutin was dosed at 150 mg QD, and TAF was switched to TDF. The patient completed 6 months of TBC treatment with clinical and microbiological cure. There was no evidence of rifabutin toxicity (ophthalmologic or hematologic), and HIV viral load continued to be <40 copies/mL.

Clinical Outcome

No unwanted outcome

Editorial Comment

The original study examining the pharmacokinetics (PK) of DRV/r and rifabutin (RFB) was in healthy volunteers who received DRV/r 600/100 mg BID plus RFB 150 mg every other day. This was then compared to RFB 300 mg QD. Based on the PK and safety data the recommendation was to use RFB 150 mg every other day with increased monitoring for RFB-related adverse events. The present case is helpful but clearly the DRV regimen is different (ie 1200/100 mg QD versus 600/100 mg BID). As with any DDI we have to consider the potential variability in magnitude of the interaction. This case does not have PK data to give further insight to any interaction.

University of Liverpool Recommendation

⚠ Potential interaction likely to be of weak intensity. Additional action/monitoring or dosage adjustment is unlikely to be required

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