clinical cases DDIs

Date of report 10 Dec 2019

Reported case interaction between **Cobicistat** and **Red yeast rice (monacolin)**

Drugs suspected to be involved in the DDI

Perpetrator
Cobicistat

Daily Dose
150 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Jan. 1, 2016

End date
Ongoing

Victim
Red yeast rice (monacolin)

Daily Dose
10 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date

End date

Sept. 1, 2019 Nov. 13, 2019

Complete list of drugs taken by the patient

Antiretroviral treatment

Darunavir/Cobicistat

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

Red yeast rice (Brand name: Arkosterol capsules) 1 cp QD

Clinical case description

Gender

Male

Age

61

eGFR (mL/min)

>60

Liver function impairment

No

Description

61 year-ol patient with HIV infection known since 2003. On ARTwith darunavir monotherapy (boosted with ritonavir or cobicistat) since 2010. HIV viral load <40 copies/mL and CD4+ T lymphocyte count 724 (48%) cells/mm3. Hypercholesterolemia (LDL cholesterol 203 mg/dL) with intolerance to atorvastatin (10 mg QD) and to ezetimibe (10 mg QD). The patient started taking red yeast rice (Brand name: arkosterol capsules. Active moitey: Monacolin K 10 mg). Two months after the patient was tolerating the treatment (no myalgia...), LDL cholesterol levels had decreased to 129 mg/dL, and CK and liver enzyme levels were within the normal range. Despite that, Darunavir/cobicistat was switched to Bictegravir/FTC/TAF to avoid interactions between cobicistat and monacolin (similar molecular structure as lovastatin)

Clinical Outcome

No unwanted outcome

Editorial Comment

Well documented case in which a patient not tolerating low-dose atorvastatin (10 mg/day) together with boosted darunavir, tolerated red yeast rice (monacolin 10 mg/day) with a large reduction in LDL (from 203 to 123 mg/dL) and no abnormalities in liver function or CPK. Red yeast rice contains monacolin K, a molecule identical to lovastatin, with lipid-lowering properties. This has entailed contraindication in the

coadministration of red yeast rice with boosted PIs, specifically darunavir, for instance in the Liverpool drug-drug interaction website due to a potential significant increase in monacolin/lovastatin exposure with risk of side effects (such as myopathy/rhabdomyolysis). Two rhabdomyolisis cases have been described in the literature, one with ciclosporin and the other with sertraline and rosuvastatin. This case shows us that patients might use safely red yeast rice even with boosted PIs. But it also has to make us consider the possibility of drug-drug interactions (the significant drop in LDL with only 10 mg of monacolin suggests a true increase of its exposure with DRV/cobi). In this patient, although there were no side effects and LDL reduction, ART was switched to BIC/FTC/TAF and we will not have long-term follow-up.

University of Liverpool Recommendation

- These drugs should not be coadministered

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