clinical cases DDIs

Date of report 20 Feb 2020

Reported case interaction between **Cobicistat** and **Amlodipine**

Drugs suspected to be involved in the DDI

Perpetrator
Cobicistat

Daily Dose
150 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
May 16, 2018

End date
Ongoing

Victim
Amlodipine

Daily Dose
10 (mg)

Dose adjustment performed
Yes

Administration Route
Oral

Start date
Oct. 15, 2019

End date
Ongoing

Complete list of drugs taken by the patient

Antiretroviral treatment

Darunavir/Cobicistat
Emtricitabine/Tenofovir-DF

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

amlodipine and atenolol

Clinical case description

Gender

Male

Age

61

eGFR (mL/min)

>60

Liver function impairment

No

Description

61 year-old man with HIV infection on cART with darunavir/ cobicistat plus emtricitabine/tenofovir. HIV RNA pVL 20 copies/ml in December 2019. His cardiologist recently changed his antihypertensive treatment and added amlodipine (5 mg QD for 2 weeks, increasing to 10 mg QD thereafter) together with diuretic and beta blocking agents (atenolol 100 mg QD). Patient felt nausea, dizziness, flushing, palpitations with irregular heart rate, as well as swelling of ankles. Severe hypotension also occurred, and he visited the cardiologist again. The cardiologist reduced amlodipine dosage to 5 mg QD and atenolol dose to 100 mg QD, but the symptoms remained. Soon after the patient was submitted to HIV Clinic, where doctors discussed with his cardiologist his condition. Specialist in Clinical Pharmacology was also involved in his treatment adjustment. So, they all agreed to

reduce amlodipine dose 2.5 mg QD as well as atenolol dosage to 25 mg QD. Soon after, patient did not complain on any side effect of his antihypertensive treatment.

Clinical Outcome

Toxicity

Drug Interaction Probability Scale (DIPS)

Score

4 - Possible

Editorial Comment

Based on theoretical considerations darunavir/cobicistat is expected to increase amlodipine plasma concentrations (CYP3A and/or CYP2D6 inhibition). Amlodipine should be started at low doses with careful titration to response. Atenolol is mainly eliminated by the kidney, both by glomerular filtration and active secretion via the renal transporters OCT2 and MATE1. Cobicistat inhibits MATE1, and concentrations of atenolol may be increased when coadministered with darunavir/cobicistat. It is recommended to start atenolol at a lower dose and adjust dosage until the desired clinical effect is achieved. In both cases, caution is warranted and clinical monitoring of therapeutic and adverse effects is recommended.

University of Liverpool Recommendation

■ Potential interaction - may require close monitoring, alteration of drug dosage or timing of administration

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