clinical cases DDIs

Date of report 26 Jun 2025

Reported case interaction between **Cobicistat** and **Epleronone**

Drugs suspected to be involved in the DDI

Perpetrator
Cobicistat

Daily Dose
150 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Nov. 19, 2019

End date
Dec. 5, 2024

Victim
Epleronone

Daily Dose
12.5 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Feb. 17, 2023

End date
Ongoing

Complete list of drugs taken by the patient

Antiretroviral treatment

Darunavir/Cobicistat/Emtricitabine/Tenofovir-AF

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

Eplerenone 12.5 mg, bisoprolol 2.5 mg, aspirin 100 mg

Clinical case description

Gender

Male

Age

59

eGFR (mL/min)

>60

Liver function impairment

No

Description

A cisgender man diagnosed with HIV in 2005, with a concomitant diagnosis of chronic hepatitis B virus (HBV) coinfection, initiated antiretroviral therapy (ART) in 2008 due to severe immunosuppression (nadir CD4 count: 60 cells/µL). The initial regimen included efavirenz/emtricitabine/tenofovir disoproxil fumarate, resulting in good virological and immunological responses.
In 2018, the patient required hospitalization for tuberculosis with pleural and pericardial involvement following an interruption of ART. During this admission, he developed nosocomial methicillin-resistant Staphylococcus aureus (MRSA) endocarditis, which led to severe aortic valve regurgitation. Due to heart failure associated with left ventricular dysfunction secondary to the valve disease, aortic valve replacement was performed in January 2020.

In February 2023, the patient’s cardiologist initiated low-dose eplerenone (12.5 mg once daily). At that time, he was receiving a fixed-dose combination of darunavir/cobicistat/emtricitabine/tenofovir alafenamide. From February 2023 to December 2024, he continued this combination without any reported adverse effects, including hyperkalaemia or other complications.

Notably, the coadministration of eplerenone with darunavir/cobicistat is contraindicated. Eplerenone is metabolized via CYP3A4, and plasma concentrations may rise substantially due to CYP3A4 inhibition by cobicistat, increasing the risk of eplerenone-related adverse events such as hyperkalaemia. In this case, the absence of toxicity may be attributed to the low dose of eplerenone.

Nevertheless, in December 2024, ART was switched to bictegravir/emtricitabine/tenofovir alafenamide to mitigate the risk of drug–drug interactions, particularly if an increase in the eplerenone dose became necessary.

Clinical Outcome

No unwanted outcome

Editorial Comment

The central point of this case is the prolonged administration of low-dose eplerenone alongside darunavir/cobicistat—a combination that is theoretically contraindicated due to the risk of hyperkalemia. Although the patient did not experience adverse effects, possibly due to the low dosage used, the significance of this case lies in the identification of the drug

interaction and the subsequent change in ART, underscoring the importance of anticipating pharmacological risks in complex patients.

University of Liverpool Recommendation

- These drugs should not be coadministered

For more information click here

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