clinical cases DDIs

Date of report 31 Oct 2024

Reported case interaction between **Cobicistat** and **Simvastatin**

Drugs suspected to be involved in the DDI

Perpetrator
Cobicistat

Daily Dose
150 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
April 29, 2016

End date
Ongoing

Victim
Simvastatin

Daily Dose
20 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
March 1, 2019

End date
April 12, 2024

Complete list of drugs taken by the patient

Antiretroviral treatment

Darunavir/Cobicistat
Dolutegravir

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

Simvastatin 20 mg every 24 hours orally; nasal budesonide very occasionally 50 mcg/dose; valacyclovir 500 mg every 12 hours orally; loratadine 10 mg every 24 hours orally as needed.

Clinical case description

Gender

Male

Age

43

eGFR (mL/min)

>60

Liver function impairment

No

Description

The patient had been on antiretroviral therapy with DTG 50 mg every 12 hours + DRV/c 800/150 mg every 24 hours since April 2016. In January 2019, atorvastatin 10 mg every 24 hours orally was started for mixed dyslipidemia, which was changed to simvastatin 20 mg/day in March 2019. Since March 2019, the patient has been receiving concomitant treatment with simvastatin and boosted antiretroviral therapy without presenting toxicity (creatine kinase normal - 87 U/L - in September 2023). In April 2024, simvastatin 20 mg/day was changed to atorvastatin 20 mg/day to minimize the risk of interactions.

Clinical Outcome

No unwanted outcome

Editorial Comment

This case represents a common and interesting situation in the primary care medical environment.
According to the label/product information, the drug-drug interaction between darunavir/cobicistat has not been formaly studied. Nevertheless simvastatin is expected to have markedly increased plasma concentrations when co-administered with boosted protease inhibitors. Increased plasma concentrations of simvastatin may cause myopathy, including rhabdomyolysis. **Concomitant use of darunavir/ cobicistat with simvastatin is therefore contraindicated.**
Although in this case no adverse effects have been observed as a consequence of the interaction, some cases of rhabdomyolysis have been published after the association of cobicistat with simvastatin.
[Ref: Perrone C, Rauch A, Furrer H, Hug M, Wandeler G. Fewer pills do not mean fewer drug-drug interactions: severe rhabdomyolysis on Elvitegravir/ Cobicistat and statin treatment. AIDS. 2018 Mar 13;32(5):676-678; Godinho R, Bugnon S, Gracin T, Tataw J. Severe rhabdomyolysis-induced acute kidney injury following concomitant use of Genvoya® (EVG/COBI/FTC/ TAF) and simvastatin; a case report. BMC Nephrol. 2019 Feb 26;20(1):69. doi: 10.1186/ s12882-019-1257-6].

University of Liverpool Recommendation

- These drugs should not be coadministered

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