clinical cases DDIs

Date of report 10 May 2022

Reported case interaction between **Ritonavir** and **Epleronone**

Drugs suspected to be involved in the DDI

Perpetrator
Ritonavir

Daily Dose
100 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
Ongoing

Victim
Epleronone

Daily Dose
25 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Oct. 19, 2021

End date
Nov. 12, 2021

Complete list of drugs taken by the patient

Antiretroviral treatment

Darunavir (with Ritonavir or Cobicistat)
Ritonavir
Dolutegravir

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

Tacrolimus 0.2 mg weekly, Prednisone 5 mg qd, Acetylsalicylic acid 100 mg qd, Omeprazole 20 mg qd, Insulin glargine, Atorvastatin 80 mg qd, Nitroglycerine transdermal patch 15 mg qd, Hydralazine 50 mg bid, Carvedilol 6.25 mg bid, Nifedipine 30 mg bid, Eplerenone 25 mg qd, Mirtazapine 15 mg qd, Vortioxetine 20 mg qd, Paliperidone 3 mg qd, Furosemide 40 mg qd, Calcifediol 0.266 mg every 2 weeks.

Clinical case description

Gender

Male

Age

59

eGFR (mL/min)

60-30

Liver function impairment

No

Description

Eplerenone 25 mg daily was started on 19/10/2020 due to chronic heart failure with reduced ejection fraction. On 12/11/2021 a routine laboratory test revealed mild asymptomatic hyperkalemia (K+ 5.91 mmol/L). Eplerenone was interrupted and calcium polystyrene sulfonate was started. Serum potassium levels were normal on a blood test performed on 29/11/2021. On 31/01/2022 spironolactone 25 mg daily was initiated, no recurrence of hyperkalaemia has been observed until April 2022.

Clinical Outcome

Toxicity

Drug Interaction Probability Scale (DIPS)

Score

3 - Possible

Editorial Comment

According to the product label of eplerenone, its association with potent CYP3A4 inhibitors is contraindicated. Eplerenone is a major CYP3A4 substrate and ritonavir is a potent CYP3A4 inhibitor. With another potent CYP3A4 inhibitor (ketoconazole 200 mg twice daily) there was a 441% increase in the AUC of eplerenone. Hyperkalemia is a common adverse effect of eplerenone. In contrast, the risk of interaction between spironolactone and ritonavir is low. Other interactions with possible risk observed in this patient would be the association of ritonavir with tacrolimus, atorvastatin and nifedipine. This case highlights the difficulty of management in polymedicated patients who need boosted antirretroviral therapy.

University of Liverpool Recommendation

- These drugs should not be coadministered

For more information click here

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