clinical cases DDIs

Date of report 28 Jul 2020

Reported case interaction between **Ritonavir** and **Paclitaxel**

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
Unknown

Victim
Paclitaxel

Daily Dose
Unknown

Dose adjustment performed
No

Administration Route
Intravenous

Start date
Unknown

End date
Unknown

Complete list of drugs taken by the patient

Antiretroviral treatment

Abacavir/Lamivudine
Darunavir (with Ritonavir or Cobicistat)

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

Paclitaxel, Carboplatin

Clinical case description

Gender

Male

Age

60

eGFR (mL/min)

60-30

Liver function impairment

No

Description

This is about an HIV-infected patient successfully treated with ABC/3TC/DRV/r who was diagnosed with metastatic gastric cancer for which palliative treatment with paclitaxel/ carboplatin was indicated. The HIV physician and oncologist were aware of a potential interaction between DRV/r and paclitaxel (see Liverpool site) but a switch to an integrase inhibitor was not chosen due to concern about a psychiatric history in this patient. Rilpivirine was considered but not attractive due to expected use of PPIs around the chemotherapy cycles. As the Liverpool site recommended close monitonring of toxicity and uncertainty whether paclitaxel levels would go up or down, the DRV/r regimen was continued and the patient was monitored according to usual toxicity evaluation by the oncologist. The 1st cycle of chemotherapy was administered in normal dose and no

toxicity occurred. The 2nd cycle was also given in normal dose. Three days later the patient became ill, got fever, mucositis, positive blood culture for E coli, and two days later died. Obduction showed extensive mucositis, no perforation.

Clinical Outcome

Toxicity

Drug Interaction Probability Scale (DIPS)

Score

2 - Possible

Editorial Comment

Paclitaxel is primarily metabolized by CYP2C8 and to a lesser extent 3A4. Darunavir/cobicistat could potentially increase paclitaxel exposure (inhibition of CYP3A4). Monitor paclitaxel induced toxicity. This case report suggests that there was a DDI leading to extensive mucositis (increased paclitaxel toxicity) that resulted in death. This is indeed possible but not substantiated (there were no levels done), and complicated by E coli bacteraemia.

University of Liverpool Recommendation

- These drugs should not be coadministered

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