clinical cases DDIs

Date of report 25 Jan 2022

Reported case interaction between **Ibalizumab** and **Vincristine**

Drugs suspected to be involved in the DDI

Ibalizumab

Daily Dose
800 (mg)

Dose adjustment performed
No

Administration Route
Intravenous

Start date
Jan. 1, 2020

End date
May 15, 2020

Vincristine

Daily Dose
Unknown

Dose adjustment performed
No

Administration Route
Intravenous

Start date
Jan. 5, 2021

End date
May 15, 2020

Complete list of drugs taken by the patient

Antiretroviral treatment

Dolutegravir/Rilpivirine

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

rituximab, etoposide, prednisone, doxorubicin, vincristine and cyclophosphamide

Clinical case description

Gender

Male

Age

40

eGFR (mL/min)

>60

Liver function impairment

No

Description

A 40-year-old man diagnosed with HIV-1 in 2005. He was initially treated with efavirenz/emtricitabine/tenofovir, but because he moved frequently for work, he was off ART for some periods.
Resistance testing in 2008 demonstrated resistance to lamivudine, emtricitabine, abacavir and didanosine, and partial resistance to tenofovir. He also had high-level resistance to doravirine, efavirenz, nevirapine, and partial low-level resistance to rilpivirine and etravirine. The virus was susceptible to PIs. A Trophile assay in 2010 showed dual CXCR4 and CCR5 virus. He was successfully treated with etravirine/raltegravir/ ritonavir/darunavir until 2013. In 2019 his ART was switched to emtricitabine/tenofovir/raltegravir/ cobicistat/darunavir, and he was undetectable until February 2019.

In November 2019, he was diagnosed with diffuse large B-cell lymphoma (stage IV). At that time his HIV-1 viral load was 2,064 copies/mL, and because of his resistance profile, he was initiated on rilpivirine/dolutegravir/darunavir-cobicistat. Soon after, for his DLBCL he was started on R-EPOCH (rituximab, etoposide, prednisone, doxorubicin, vincristine and cyclophosphamide).
Because of his resistance profile, his ART regimen was switched to rilpivirine, dolutegravir and darunavir-cobicistat 800–150 mg daily, which was held on the days he received chemotherapy. Additionally, ibalizumab, which has no known drug interactions, was initiated as bridge therapy while darunavir/cobicistat was held (loading dose 2000 mg IV once then 800 mg IV every 14 days). His HIV-1 viral load decreased to undetectable levels 6 weeks later. He completed 6 cycles of R-EPOCH without any dose-limiting toxicities and is in remission clinically.
Reference: Dickter JK, Martin AL, Ho S, Ross JA, Shouse GP. Ibalizumab-uiyk as a bridge therapy for a patient with drug-resistant HIV-1 infection receiving chemotherapy: A case report. J Clin Pharm Ther. 2021;46(4):1185-1187. doi:10.1111/jcpt.13411

Clinical Outcome

No unwanted outcome

Editorial Comment

Boosted regimens may increase serum concentrations and toxicities of vincristine, as well as etoposide, doxorubicin and

cyclophosphamide, by competitively inhibiting CYP metabolism or inhibiting the P-glycoprotein efflux pump. In this interesting clinical case, ibalizumab, which has no relenat DDI with ritonavir or cobicistat was used as a bridge therapy for a patient with complicated management due to multidrug-resistant HIV-1 infection and DLBCL.

University of Liverpool Recommendation

- No clinically significant interaction expected

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