clinical cases DDIs

Date of report 09 Mar 2020

Reported case interaction between **Nevirapine** and **Dexamethasone**

Drugs suspected to be involved in the DDI

Victim
Nevirapine

Daily Dose
400 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Dec. 10, 1998

End date
Nov. 15, 2018

Perpetrator
Dexamethasone

Daily Dose
8 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
July 30, 2018

End date
Sept. 30, 2018

Complete list of drugs taken by the patient

Antiretroviral treatment

Abacavir/Lamivudine
Nevirapine

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

Dexamethasone, 5-Fluorouracil, Oxaliplatin, Bevacizumab, Atorvastatnin

Clinical case description

Gender

Female

Age

55

eGFR (mL/min)

>60

Liver function impairment

No

Description

55 year-old woman diagnosed with HIV in 1990 . She initiated ART in 1990 and plasma viral load had been under the limit of detection since 2001. Since 2011 she had been receiving ART with abacavir, lamivudine and nevirapine. In 2017 she was diagnosed with colorectal cancer. As first line therapy she received neoadjuvant radiotherapy and chemotherapy with capecitabine followed by surgical resection and chemotherapy with capecitabine. Some months later disease progression was observed, and a new chemotherapy scheme was initiated that included 5-Fluorouracil and Oxaliplatin in combination with Bevacizumab. Every treatment cycle chemotherapy was administered along with dexamethasone at a dose of 20 mg, as induction, followed by 4 mg twice daily for 3 days. A routine HIV control was performed after 11

cycles and plasma viral load was 515 copies/mL. The patien reported good adherence to ART, with no missed doses. A genotypic resistance test showed NRTI and NNRTI resistance-associated mutations (V75I, M184V and K101E). ART was switched to TAF/FTC/DRV/c, achieving undetectable plasma viral load.

Clinical Outcome

Loss of efficacy

Drug Interaction Probability Scale (DIPS)

Score

6 - Probable

Editorial Comment

Coadministration of Nevirapine (NVP) and Dexamethasone may decrease NVP and/or Dexamethasone plasma concentrations. To anticipate/characterize the drug-drug interaction, it is recommanded to monitor NVP plasma concentrations and steroid effects (not reported in the present case) At failure, the genotypic test performed on the corresponding plasma HIV-RNA (515 copies/mL) demonstrated a M184V mutation associated with 3TC/FTC resistance and with ABC partial resistance. It harbored also a K101E, which confered NVP resistance, potentially associated with low NVP plasma exposure. The Genotypic Sensitivity Score (GSS) is calculated to 0.5, explaining the virological

failure related with the drug interaction. The switch from NVP + ABC/3TC to FTC/TAF/DRV/c (GSS = 2) and Dexamethasone discontinuation, led to a virological resuppression.

University of Liverpool Recommendation

■ Potential interaction - may require close monitoring, alteration of drug dosage or timing of administration

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