clinical cases DDIs

Date of report 31 Jan 2020

Reported case interaction between **Cobicistat** and **Vinblastine**

Drugs suspected to be involved in the DDI

Perpetrator
Cobicistat

Daily Dose
150 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
Unknown

Victim
Vinblastine

Daily Dose
11 every 2 w (mg)

Dose adjustment performed
No

Administration Route
Intravenous

Start date
Unknown

End date
Unknown

Complete list of drugs taken by the patient

Antiretroviral treatment

Elvitegravir/Cobicistat/Emtricitabine/Tenofovir-DF

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

vinblastin 11 mg every 2 weeks doxorubin 46 mg every 2 weeks bleomycin 18.6 mg every 2 weeks dacarbazine 700 mg every 2 weeks

Clinical case description

Gender

Female

Age

46

eGFR (mL/min)

>60

Liver function impairment

No

Description

HIV infected woman initiated on ABVD (doxorubicin, bleomycin, vinblastine, dacarbazine) chemotherapy protocol for the treatment of Hodgkin's lymphoma while on antiretroviral treatment with elvitegravir/c, emtricitabine, tenofovir-DF. After the first chemotherapy cycle, the patient complained of slight paresthesia of the legs which progressed to serious sensory-motor lower and upper limbs peripheral neuropathies after the third chemotherapy cycle. A neuro-meningeal lymphoma was excluded by performing a lumbar puncture. An electromyogram confirmed the diagnosis of evolutive axonal four limbs sensory-motor peripheral polyneuropathy. This complication was suspected to result from a drug-drug interaction between cobicistat (strong CYP3A4 Inhibitor) and vinblastine (substrate of CYP3A4).

Severe neutoxicity has indeed been reported in patients treated concomitantly with vinblastine and ritonavir, another strong CYP4A4 inhibitor (Cingolani A te al. AIDS 2010; Corona G et al. AIDS 2013; Cheung MC et al. Clin Lymphoma Myeloma Leuk 2010). Vinblastine was replaced by etoposide and antiretroviral treatment was changed to darunavir/r, abacavir, lamivudine. After 2 weeks, neuropathies were reduced although they persisted for 6 months. This case has been published: Bidon D et al. AIDS 2015; 29:1117-1121.

Clinical Outcome

Toxicity

Drug Interaction Probability Scale (DIPS)

Score

7 - Probable

Editorial Comment

Coadministration may increase vinblastine concentrations (due to inhibition of CYP3A4 and P-gp), resulting in the potential for increased incidence of adverse events. Severe neutoxicity has been reported in patients treated concomitantly with vinblastine and ritonavir, another strong CYP4A4 inhibitor (Cingolani A te al. AIDS 2010; Corona G et al. AIDS 2013; Cheung MC et al. Clin Lymphoma Myeloma Leuk 2010).

University of Liverpool Recommendation

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

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