Date of report 17 May 2024

Reported case interaction between **Elvitegravir** and **Dexamethasone**

Drugs suspected to be involved in the DDI

Victim
Elvitegravir

Daily Dose
150 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
Unknown

Perpetrator
Dexamethasone

Daily Dose
Unknown

Dose adjustment performed
No

Administration Route
Other

Start date
Unknown

End date
Unknown

Complete list of drugs taken by the patient

Antiretroviral treatment

Elvitegravir/Cobicistat/Emtricitabine/Tenofovir-AF
Darunavir (with Ritonavir or Cobicistat)

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

Dexamethasone administered as epidural injection

Clinical case description

Gender

Male

Age

53

eGFR (mL/min)

>60

Liver function impairment

No

Description

A 53-year old male with a controlled HIV infection on elvitegravir/c + TAF + FTC + darunavir received an epidural injection of dexamethasone to treat back pain. Dexamethasone is a weak-moderate inducer of CYP3A4 and therefore has the potential to reduce the exposure of elvitegravir/c and darunavir. On the other hand, elvitegravir/c and darunavir are strong inhibitors of CYP3A4 and therefore have the potential to increase dexamethasone exposure which consequently may increase the risk of Cushing syndrome. Subsequent investigations indicated no deleterious effects as the measurement of morning cortisol was 396 nmol/L, additionally darunavir and elvitegravir concentrations remained within the therapeutic range (darunavir concentration was 4585 ng/mL corresponding to percentile

75; elvitegravir was 2215 ng/mL corresponding to percentile 90).

Clinical Outcome

No unwanted outcome

Editorial Comment

Coadministration has not been studied. Dexamethasone is metabolized by CYP3A4 and cobicistat may increase dexamethasone concentrations due to inhibition of CYP3A4. A dose reduction of the glucocorticoid may be necessary with monitoring for symptoms of Cushing's syndrome. Dexamethasone is a dose-dependent inducer of CYP3A4 and is a moderate CYP3A4 inducer at doses above 16 mg. In this case the patient received a single dose of dexamethasone (dose unknown), but chronic or high doses of dexamethasone may significantly decrease cobicistat and elvitegravir and darunavir plasma concentrations, which may result in loss of therapeutic effect and development of resistance. Use with caution. Alternative corticosteroids should be considered. No a priori dose adjustment of tenofovir alafenamide or emtricitabine are needed

University of Liverpool Recommendation

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

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