Date of report 02 Sep 2021

Reported case interaction between **Cobicistat** and **Triamcinolone**

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
Triamcinolone

Daily Dose
80 (mg)

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

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

No other drugs

Clinical case description

Gender

Female

Age

76

eGFR (mL/min)

>60

Liver function impairment

No

Description

A 76-year-old HIV-infected women with type 2 diabetes presented with complaints of fatigue, weight loss (2.7 kg) and uncontrolled hyperglycemia. The patient reported being treated with 4 sequential 80 mg epidural triamcinolone injections (6 months apart) for chronic back pain. Physical examination revealed moon facies and muscle weakness. The patient presented episodes of hypotension and uncontrolled hyperglycemia during her hospitalization. Endocrine evaluation revealed biochemical evidence of hypothalamic-pituitary-adrenal axis suppression with a low morning serum cortisol level (4.5 mcg/dl; normal value 5-25 mcg/dL). Response to cosyntropin stimulation testing was adequate thus excluding primary adrenal insufficiency. An elevated triamcinolone level was found (0.69 mcg/dL, reference value 0.10 mcg/dL). An interaction between elvitegravir/cobicistat and triamcinolone was suspected given that cobicistat is a

strong inhibitor of CYP3A4, the metabolizing enzyme of triamcinolone. Elevated concentrations of corticosteroids can result in negative feeback on the endogenous HPA axis leading to adrenal atrophy and reduced cortisol secretory capacity. Elvitegravir/cobicistat was replaced by dolutegravir and the patient was started on maintenance hydrocortisone to prevent an adrenal crisis. Her fatigue and muscle weakness improved and a marked decrease in triamcinolone level to 0.32 mcg/dL was observed. Three months later, the patient's hyperglycemia had improved and after 8 months, morning cortisol and ACTH levels were in the normal range (11 mcg/dL and 13 pg/ml, respectively). This case has been published by Mathias PM et al. in AACE Clinical Case Rep 2020; 6(5), e217-220.

Clinical Outcome

Toxicity

Drug Interaction Probability Scale (DIPS)

Score

8 - Probable

Editorial Comment

The use of triamcinolone with strong CYP3A4 inhibitors should be avoided due to the risk of Cushing Syndrome, unless the potential benefit of treatment outweighs the risk of systemic corticosteroid effects. Triamcinolone is metabolised by

CYP3A4 and coadministration with elvitegravir/cobicistat could increase concentrations of triamcinolone. There are several case reports of Cushing's syndrome with the use of intra articular triamcinolone injections in patients on ritonavir-boosted PIs. A reduced dose of methylprednisolone has been suggested as a possible safer alternative to triamcinolone injection although there is insufficient information to indicate whether other injectable steroids present a lower risk than triamcinolone.

University of Liverpool Recommendation

- These drugs should not be coadministered

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