



Date of report 11 Oct 2022

## Reported case interaction between **Dolutegravir** and **Magnesium supplements**

### Drugs suspected to be involved in the DDI

Victim

**Dolutegravir**

Daily Dose

50 (mg)

Dose adjustment performed

No

Administration Route

Oral

Start date

Unknown

End date

Ongoing

Perpetrator

**Magnesium  
supplements**

Daily Dose

400 (mg)

Dose adjustment performed

No

Administration Route

Oral

Start date

End date

Unknown

Unknown

## Complete list of drugs taken by the patient

Antiretroviral treatment

Dolutegravir/Abacavir/Lamivudine

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

Magnesium citrate

## Clinical case description

Gender

Male

Age

55

eGFR (mL/min)

>60

Liver function impairment

No

Description

This is a case of a male patient, 55 years old, Caucasian, with no liver and kidney impairment. He was HIV diagnosed in 2002 and since then he had a long history of different antiretroviral treatments. He has no reported comorbidities. No alcohol and cigarette consumption. Since 2018, his current antiretroviral treatment, is as follows: 600 mg abacavir, 50 mg dolutegravir, and 300 mg lamivudine. Since the introduction of the current treatment, he was undetectable. However, in 2019 his HIV RNA pVL was 110 copies/mL. He confirmed that he was adherent to the treatment and reported self-prescribed supplements intake, specifically magnesium citrate (400 mg, QD). TDM was performed using validated high-performance liquid chromatography (HPLC) assay and it showed dolutegravir

C<sub>trough</sub> plasma concentration of 0.28 µg/mL. He was advised to stop magnesium citrate supplement and his HIV RNK pVL 3 months after was again undetectable.

## Clinical Outcome

**Loss of efficacy**

## Drug Interaction Probability Scale (DIPS)

Score

**5 - Probable**

## Editorial Comment

An important reminder that the interaction between INSTIs and divalent cations can cause virological failure. Also underlines the need for a full medication history, including supplements.

The DTG trough level was 0.28 mg/L which is considerably lower than the average trough level of 0.8-1.0 mg/L.

Although there is uncertainty around the true minimum effective concentration for DTG, some experts refer to 0.32 mg/L based on studies with doses of DTG lower than 50mg. The observed value here is below that potential target.

## University of Liverpool Recommendation

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

For more information [click here](#)

