clinical cases DDIs

Date of report 07 Jul 2026

Reported case interaction between **Dolutegravir** and **Mineral 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
Mineral supplements

Daily Dose
Unknown

Dose adjustment performed
No

Administration Route
Oral

Start date
Aug. 1, 2025

End date
Aug. 31, 2025

Complete list of drugs taken by the patient

Antiretroviral treatment

Emtricitabine/Tenofovir-DF
Dolutegravir

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

Supplements: chelated magnesium, zinc, activated charcoal, bromelin, omega 3, N-acetyl cysteine, liquorice extract, aloe vera juice, probiotics, liquid iodine, vitamin E, soya lecithin, vitamin B complex, collagen peptides.
Esomeprazole, fluoxetine, levothyroxine, symbicort inhaler

Clinical case description

Gender

Female

Age

38

eGFR (mL/min)

>60

Liver function impairment

No

Description

A patient on chronic antiretroviral therapy with DTG plus FTC/TDF and with a history of gastric bypass surgery in 2022 was admitted to hospital with chronic upper gastrointestinal symptoms. During the admission, HIV viral load testing revealed virological rebound (8051 copies/mL), whereas one month earlier the viral load had been undetectable.
Initial concerns focused on potential impaired antiretroviral absorption related to the prior gastric bypass. However, further evaluation revealed that the patient had recently initiated multiple dietary supplements, including chelated magnesium, activated charcoal and zinc. These supplements

had been taken concomitantly with antiretroviral therapy without temporal separation.
All supplements were discontinued and repeat viral load testing one month later showed re-establishment of virological suppression.
This case highlights the importance of ongoing patient education regarding the potential for drug–drug interactions between dietary supplements and antiretroviral therapy, particularly those that may impair drug absorption.

Clinical Outcome

Loss of efficacy

Drug Interaction Probability Scale (DIPS)

Score

7 - Probable

Editorial Comment

This case highlights that natural products and dietary supplements are not exempt from the risk of clinically relevant drug–drug interactions. A careful medication history should always include over-the-counter products, herbal preparations, vitamins, minerals, and nutritional supplements, as patients often do not consider these to be medications and may not report their use.
Simultaneous administration of magnesium-containing supplements with dolutegravir decreases dolutegravir

exposure through chelation, and dolutegravir should therefore be administered at least 2 hours before or 6 hours after products containing polyvalent cations. In addition, activated charcoal may further reduce dolutegravir absorption by adsorbing the drug within the gastrointestinal tract.
Although previous gastric bypass surgery initially raised concerns about impaired antiretroviral absorption, the temporal relationship between initiation of the supplements, virological rebound, and subsequent viral re-suppression after their discontinuation strongly suggests that the interaction with magnesium-containing supplements, possibly enhanced by concomitant zinc and activated charcoal, was the most likely cause of treatment failure in this case.
This case reinforces the importance of routinely reviewing the use of dietary supplements and educating patients about the need to separate polyvalent cation-containing products from integrase inhibitors and to avoid unnecessary concomitant use of adsorbent products such as activated charcoal.

University of Liverpool Recommendation

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

For more information click here

Personal information from the specialist

Name
Arlene

Surname
Heekin

Institution
St James Hospital

Country
IE