clinical cases DDIs

Date of report 31 Oct 2024

Reported case interaction between **Dolutegravir** and **Ginkgo biloba**

Drugs suspected to be involved in the DDI

Victim
Dolutegravir

Daily Dose
50 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Feb. 11, 2020

End date
Ongoing

Perpetrator
Ginkgo biloba

Daily Dose
50 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
April 24, 2024

Complete list of drugs taken by the patient

Antiretroviral treatment

Dolutegravir
Lamivudine

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

Ginkgo biloba 50 mg, Magnesium aspartate 200 mg

Clinical case description

Gender

Female

Age

73

eGFR (mL/min)

>60

Liver function impairment

No

Description

A 73-year-old female was diagnosed with HIV in 2007. In 2009, she was initially prescribed a regimen of 3TC/AZT-EFV, which was later switched to 3TC/ABC-EFV. In 2020, due to intolerance to EFV, her treatment was changed to DTG/3TC, and she has maintained viral suppression to date.
During a medical consultation in 2024, the patient reported taking a supplement over the past year containing 50 mg of Ginkgo biloba, vitamins, and minerals, including 200 mg of magnesium aspartate, to address fatigue. Upon further questioning, she mentioned that she took the supplement at night and her antiretroviral treatment in the morning. Although Ginkgo biloba may induce CYP3A4 and magnesium may reduce DTG absorption through a gastric chelation mechanism, the patient maintained viral suppression throughout the period of supplement use. The separation in

administration times between the antiretroviral treatment and the polyvalent cation supplement likely explains the absence of efficacy loss from magnesium. Additionally, DTG undergoes minimal metabolism via CYP3A4, which could account for the lack of interaction with Ginkgo biloba.

Clinical Outcome

No unwanted outcome

Editorial Comment

This case presents two potential drug-drug interactions (DDIs), although neither occurred in this instance. The author notes that the patient likely took antiretroviral medications (evening dose) and supplements (morning dose) at intervals spread throughout the day, which may have contributed to the avoidance of interactions.
The first potential DDI involves dolutegravir and Ginkgo biloba. Although Ginkgo biloba is known to induce CYP3A4, dolutegravir (DTG) undergoes minimal metabolism via CYP3A4, which helps explain the lack of interaction with Ginkgo biloba.
Conversely, a clinically relevant interaction may occur with magnesium supplements. Magnesium can reduce the absorption of DTG through a chelation mechanism. Therefore, it is advisable to space the administration of dolutegravir and magnesium supplements, ensuring that the latter is taken either two hours before or six hours after the intake of dolutegravir.

University of Liverpool Recommendation

⚠ Potential interaction likely to be of weak intensity. Additional action/monitoring or dosage adjustment is unlikely to be required

For more information click here

Personal information from the specialist

Name
Ezequiel

Surname
Cordova

Institution
Hospital Cosme Argerich

Country
AR