clinical cases DDIs

Date of report 17 Mar 2026

Reported case interaction between **Dolutegravir** and **Oxcarbazepine**

Drugs suspected to be involved in the DDI

Victim
Dolutegravir

Daily Dose
50 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Jan. 27, 2016

End date
May 6, 2025

Perpetrator
Oxcarbazepine

Daily Dose
600 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Jan. 17, 2017

End date
Sept. 16, 2021

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

Oxcarbazepine, amlodipin, valsartan hydroclorotiazid, bisoprolol, sertralin, pravastatin

Clinical case description

Gender

Male

Age

52

eGFR (mL/min)

60-30

Liver function impairment

No

Description

A 52-year-old man diagnosed with HIV infection in 2000 and on antiretroviral therapy (ART) since 2008 had received multiple ART regimens over time due to adverse effects and treatment simplification. Since 2016, he had been receiving dolutegravir 50 mg once daily in combination with oxcarbazepine 600 mg once daily for focal epilepsy.
Despite a known drug–drug interaction between oxcarbazepine and dolutegravir, no adjustment of the antiretroviral regimen was made, and virological control was maintained.

Clinical Outcome

No unwanted outcome

Editorial Comment

This case highlights the complex and still incompletely characterized interaction between oxcarbazepine and dolutegravir. Oxcarbazepine is a weak inducer of CYP3A4 and UGT1A1, with a dose-dependent inducing effect that appears minimal at lower doses (e.g., 600 mg daily) and less pronounced than that of carbamazepine. Available data suggest that enzyme induction becomes more relevant at higher doses (≥1200 mg/day), although still to a lesser extent than with carbamazepine.

Pharmacokinetic data indicate that coadministration of enzyme-inducing antiepileptic drugs, including carbamazepine and oxcarbazepine, may significantly reduce dolutegravir exposure, with trough concentrations reported to be up to ~83% lower compared with patients not receiving enzyme inducers. Consequently, coadministration is generally not recommended due to the potential risk of virological failure, and therapeutic drug monitoring (TDM) and/or dose adjustment of dolutegravir may be required when such combinations cannot be avoided.

Current recommendations differ across regulatory agencies. The US prescribing information advises avoiding coadministration with oxcarbazepine due to insufficient data, whereas the European Summary of Product Characteristics recommends increasing dolutegravir to 50 mg twice daily, particularly in patients without integrase inhibitor resistance. As with other inducers, this dose adjustment should be

maintained for approximately 2 weeks after discontinuation of oxcarbazepine due to the persistence of enzyme induction.
Despite these concerns, limited clinical data suggest that virological suppression may be maintained in some patients receiving concomitant oxcarbazepine and dolutegravir, even at standard dosing. For example, a small case series reported sustained viral suppression in patients receiving oxcarbazepine at doses ranging from 300 to >1200 mg daily in combination with dolutegravir 50 mg once daily.
In this case, the absence of virological failure despite coadministration may be explained by the relatively low dose of oxcarbazepine, the modest inducing effect compared with stronger inducers, and/or favorable patient-specific factors such as adherence or pharmacogenetic variability. Nevertheless, caution is warranted, and close virological monitoring should be ensured when these drugs are used together.

University of Liverpool Recommendation

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

For more information click here

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