clinical cases DDIs

Date of report 20 Oct 2026

Reported case interaction between **Rilpivirine LA** and **Carbamazepine**

Drugs suspected to be involved in the DDI

Victim
Rilpivirine LA

Daily Dose
900 (mg)

Dose adjustment performed
No

Administration Route
Intramuscular

Start date
May 5, 2025

End date
Ongoing

Perpetrator
Carbamazepine

Daily Dose
400 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
May 3, 2026

End date
May 13, 2026

Complete list of drugs taken by the patient

Antiretroviral treatment

Cabotegravir/Rilpivirine LA

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

Carbamazepine 200 mg BID

Clinical case description

Gender

Male

Age

32

eGFR (mL/min)

>60

Liver function impairment

No

Description

A 32-year-old man with HIV and sustained virological suppression was receiving long-acting cabotegravir plus rilpivirine (CAB+RPV LA) every 2 months. He had been receiving this regimen for 12 months, with HIV-1 RNA consistently <20 copies/mL, no history of virological failure and no known resistance to integrase inhibitors or rilpivirine.

On 3 August 2026, he presented to the Emergency Department with a first focal-onset seizure. Subsequent neurological assessment led to a diagnosis of focal epilepsy, and carbamazepine 200 mg twice daily was initiated.

During medication reconciliation at the HIV clinic on 13 August 2026, a clinically significant drug–drug interaction was identified. Carbamazepine is a potent inducer of UGT1A1 and CYP3A4 and is expected to substantially reduce exposure to both cabotegravir and rilpivirine, potentially increasing the risk of loss of virological suppression and emergence of

resistance. Concomitant administration with CAB+RPV LA is therefore contraindicated.

Carbamazepine was immediately discontinued after 10 days of exposure. Following discussion with the Neurology team, antiseizure treatment was switched to levetiracetam 500 mg twice daily, for which no clinically relevant interaction with CAB+RPV LA was expected.

During early follow-up after identification of the interaction, HIV-1 RNA increased transiently to 150 copies/mL. No symptoms or adherence problems were reported. No additional antiretroviral treatment was introduced, and CAB+RPV LA was continued as scheduled. Although causality cannot be established from a single episode of low-level viraemia, the temporal association with exposure to a potent enzyme inducer is pharmacologically plausible.

Four weeks after carbamazepine withdrawal, HIV-1 RNA had returned to <20 copies/mL and remained suppressed during subsequent follow-up. No further seizures occurred during treatment with levetiracetam.

This case highlights the importance of medication reconciliation and communication between specialties when prescribing new drugs to patients receiving long-acting ART. This is particularly relevant because the injected drugs remain in the body for a prolonged period and cannot be withdrawn if an interacting medication is introduced.

Clinical Outcome

Loss of efficacy

Drug Interaction Probability Scale (DIPS)

Score

7 - Probable

Editorial Comment

This case highlights a clinically important interaction that may be overlooked because it involves an oral medication and injectable antiretroviral therapy. Intramuscular administration does not prevent interactions mediated by enzyme induction. Carbamazepine and other enzyme-inducing antiseizure medications, such as phenobarbital and phenytoin, may substantially reduce cabotegravir and rilpivirine exposure, regardless of the administration route. Coadministration of carbamazepine with CAB+RPV LA is contraindicated because of the potential for loss of therapeutic effect and development of resistance.

The transient detectable viraemia is noteworthy given the relatively low carbamazepine dose and brief exposure of 10 days, before maximal enzyme induction would generally be expected. However, a single HIV-1 RNA measurement of 150 copies/mL does not establish causality and could represent an isolated viral blip. Prompt carbamazepine withdrawal and substitution with levetiracetam were followed by virological resuppression without additional ART.

Long-acting formulations require particular attention because the injected drugs cannot be withdrawn, while enzyme induction may persist after the interacting medication is discontinued.

The case underscores the importance of checking for interactions when prescribing new medications, including in

emergency settings, and ensuring communication between HIV and other prescribers.

University of Liverpool Recommendation

- These drugs should not be coadministered

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