clinical cases DDIs

Date of report 17 Mar 2026

Reported case interaction between **Ritonavir** and **Risperidone**

Drugs suspected to be involved in the DDI

Perpetrator
Ritonavir

Daily Dose
100 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Dec. 1, 2024

End date
April 8, 2025

Victim
Risperidone

Daily Dose
2 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
March 22, 2025

End date
Ongoing

Complete list of drugs taken by the patient

Antiretroviral treatment

Darunavir (with Ritonavir or Cobicistat)
Emtricitabine/Tenofovir-DF

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

Risperidone; Lamotrigine; Levomepromazine

Clinical case description

Gender

Male

Age

19

eGFR (mL/min)

>60

Liver function impairment

No

Description

A 19-year-old cisgender male with a history of depression and prior suicide attempts was diagnosed with HIV infection. At diagnosis, HIV viral load was 212,000 copies/mL (log 5.3) and CD4 count was 291 cells/mm³ (12%). Antiretroviral therapy (ART) with doravirine/tenofovir disoproxil fumarate/lamivudine was initiated.

The patient demonstrated poor adherence and experienced virological failure despite multiple adherence reinforcement interventions, with a viral load of 1,300 copies/mL. Resistance testing could not be performed due to non-amplifiable samples. In the absence of alternative options, ART was empirically switched to darunavir/ritonavir plus tenofovir disoproxil fumarate/lamivudine. Following this change, the patient achieved virological suppression.

In March 2025, the patient was hospitalized and diagnosed with schizophrenia. Treatment with risperidone, lamotrigine, and levomepromazine was initiated.
One month later, given the potential for drug–drug interactions with the psychiatric regimen, and in the context of psychiatric stabilization, ART was switched to bictegravir/tenofovir alafenamide/emtricitabine.

Clinical Outcome

No unwanted outcome

Editorial Comment

This case highlights the potential for drug–drug interactions between risperidone and ritonavir-boosted protease inhibitors such as darunavir/ritonavir. Risperidone is primarily metabolized by CYP2D6 and, to a lesser extent, by CYP3A4. Ritonavir is a potent inhibitor of CYP3A4 and may also affect CYP2D6, potentially increasing risperidone plasma concentrations.
Therefore, coadministration should be approached with caution, and dose adjustments of risperidone may be required. Several case reports have described adverse effects such as extrapyramidal symptoms, neuroleptic malignant syndrome, and angioedema in similar contexts.
Although no adverse events were observed in this case, the short duration of concomitant use may have limited the clinical impact of the interaction. Nonetheless, caution is warranted when these drugs are used together. Close clinical monitoring, consideration of alternative antiretroviral

regimens, and potential dose adjustments of risperidone should be considered, particularly in patients receiving long-term boosted protease inhibitor therapy.

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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