

# You Can't Take That!

## Paxlovid<sup>®</sup> and Drug-Drug Interactions

*Cara Kolopelnyk, Alison Hay*

*SA Pharmacy, Central Adelaide Local Health Network*

**This case report highlights the potential adverse effects of drug-drug interactions between Paxlovid<sup>®</sup> and other commonly used medications**

### Background

- Nirmatrelvir-ritonavir (Paxlovid<sup>®</sup>) is a novel, combination antiviral treatment for mild coronavirus illness (COVID-19).
- Nirmatrelvir's short half-life requires it to be 'boosted' with ritonavir in order to achieve therapeutic effect against COVID-19.
- The cytochrome P450 and P-glycoprotein enzyme inhibition from ritonavir can cause clinically significant interactions with many other medications metabolised or transported by these enzymes.
- Some medications can be safely adjusted or temporarily omitted to account for these enzymatic and pharmacokinetic changes.
- However, many common medications should never be given together with Paxlovid<sup>®</sup> due to the severity of the interactions.
- The manufacturer lists a large number of medications that interact with Paxlovid<sup>®</sup> in the Product Information.
- Specialist drug-drug interaction checkers for Paxlovid<sup>®</sup> are also readily accessible online.

### Clinical Features

- A 75-year-old female was prescribed Paxlovid<sup>®</sup> 300/100mg twice a day for five days for mild COVID-19 by her general practitioner.
- Her past medical history included atrial fibrillation, hypertension, and chronic kidney disease.
- Her historical medications included amiodarone, apixaban, and diltiazem, amongst others.
- All her historical medications were continued at their regularly prescribed doses with the Paxlovid<sup>®</sup>.
- After taking four doses (48 hours) of Paxlovid<sup>®</sup> therapy, the patient presented to an emergency department with worsening lightheadedness, dizziness, nausea, and malaise.
- Investigations revealed significant QTc prolongation, liver function test (LFT) derangement, hypotension, and an acute kidney injury.

### Pharmacist Intervention

- The patient was transferred to the COVID-19 outpatient clinic (COVID Care Centre) for management.
- The COVID-19 outpatient clinic pharmacist identified several significant drug-drug interactions that had contributed to her admission; Paxlovid<sup>®</sup> had increased the serum concentrations of amiodarone, apixaban, and diltiazem.
- This was further compounded by the patient receiving a higher than recommended Paxlovid<sup>®</sup> dose for her baseline renal function.

### Case Progress

- Paxlovid<sup>®</sup> was ceased and supportive care was provided.
- Her historical medications were temporarily adjusted, including:
  - withholding amiodarone and diltiazem
  - decreasing apixaban dose
  - withholding or adjusting her other renally cleared medications
- After 48 hours of Paxlovid<sup>®</sup> cessation, medication adjustments, and supportive care, the patient's adverse effects resolved.
- Her renal function, LFTs, and QTc also returned to near baseline levels.

### Conclusion

- Health professionals must carefully review a patient's complete medication regime before prescribing Paxlovid<sup>®</sup>.
- Pharmacist input is strongly recommended when prescribing Paxlovid<sup>®</sup> for patients with complex medication regimes.
- Patients who take Paxlovid<sup>®</sup> with medication(s) that should be avoided or are contraindicated should receive close clinical monitoring and supportive therapy, with Paxlovid<sup>®</sup> being ceased where appropriate.

For more information

**Cara Kolopelnyk**  
Senior Clinical Pharmacist  
[Cara.Kolopelnyk@sa.gov.au](mailto:Cara.Kolopelnyk@sa.gov.au)

**Alison Hay**  
Senior Clinical Pharmacist  
[Alison.Hay@sa.gov.au](mailto:Alison.Hay@sa.gov.au)



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