

Rifamycins and Cardiovascular Agents: Drug-Drug Interactions

General Tuberculosis (TB) Therapy Information

Many cardiovascular agents are metabolized via the Cytochrome P450 (CYP450) enzymatic system in the liver. Rifampin is a potent inducer of the Cytochrome P450 and accounts for the many of the drug interactions that occur during TB therapy.

Rifabutin is a weaker inducer of the Cytochrome P450 system, potentially interacting with some of the same medications as Rifampin. Rifapentine is also a potent inducer of CYP450 enzymatic system in the liver with drug-drug interactions of a severity similar to those of rifampin.

GENERIC	CLINICAL EFFECT	INTERACTIONS	RECOMMENDATIONS
Angiotensin Converting Enzyme (ACE) Inhibitors			
(Class Effect)	↓ Blood pressure	RIF: ↓ACEI levels ~30% (poor evidence, no studies)	Increase BP monitoring; consider ACEI dose adjustment
Angiotensin Receptor Blockers (ARBs)			
(Class Effect)	↓ Blood pressure • Renoprotective	RIF: ↓ARB levels ~35% (poor evidence, no studies)	Increase BP monitoring; consider ACEI dose adjustment
Beta Blockers			
Metoprolol	↓ Blood pressure	RIF: ↓Metoprolol levels 33%	Increase BP monitoring; consider dose adjustment
Propranolol	↓ Blood pressure	RIF: Doubled apparent oral clearance	Increase BP monitoring; consider dose adjustment
Bisoprolol	↓ Blood pressure	RIF: ↓Bisoprolol levels 34%	Increase BP monitoring; consider dose adjustment
Calcium Channel Blockers (CCBs)			
Nifedipine	↓ Blood pressure	RIF: ↓Nifedipine levels 92-97% (contraindicated*)	Increase BP monitoring; consider switching to other antihypertensive agents with less interaction. *Major interactions occur between orally administered Nifedipine and Rifampin. IV administration significantly reduces the potency of the interactions.
Almodipine	↓ Blood pressure	RIF: Theoretically ↓ Almodipine levels	Increase BP monitoring; consider dose adjustment; consider switching to other antihypertensive agents with less interaction.
Diltiazem	↓ Blood pressure	RIF: ↓ Diltiazem levels	Increase BP monitoring; consider dose adjustment; consider switching to other antihypertensive agents with less interaction.
Verapamil	↓ Blood pressure	RIF: ↓ Verapamil levels 93-99%	Increase BP monitoring; consider dose adjustment; consider switching to other antihypertensive agents with less interaction.
Thiazide Diuretics			
(Class Effect)	↓ Blood pressure	None noted	No contraindications
HMC CoA Inhibitors (Statins)			
Atorvastatin	↓ Cholesterol levels ↓ Stroke • Cardioprotective	RIF: ↓ Atorvastatin levels 80%	Increase BP monitoring; consider alternate lipid lowering agent to minimize effect; consider increasing statin dose; consider using Rifabutin in place of Rifampin.
Rosuvastatin	↓ Cholesterol levels ↓ Stroke • Cardioprotective	RIF: May ↓ Rosuvastatin levels	Increase BP monitoring; consider increasing statin dose; consider using Rifabutin in place of Rifampin.
Simvastatin	↓ Cholesterol levels ↓ Stroke • Cardioprotective	RIF: ↓ Simvastatin levels 82-97%	Increase BP monitoring; consider alternate lipid lowering agent to minimize effect; consider increasing statin dose; consider using Rifabutin in place of Rifampin.
Pravastatin	↓ Cholesterol levels ↓ Stroke • Cardioprotective	RIF: Theoretically ↓ Statin levels	Increase BP monitoring; consider alternate lipid lowering agent to minimize effect; consider increasing statin dose; consider using Rifabutin in place of Rifampin.
Lovastatin	↓ Cholesterol levels ↓ Stroke • Cardioprotective	RIF: Theoretically ↓ Statin levels	Increase BP monitoring; consider alternate lipid lowering agent to minimize effect; consider increasing statin dose; consider using Rifabutin in place of Rifampin.
Fluvastatin	↓ Cholesterol levels ↓ Stroke • Cardioprotective	RIF: ↓ Statin levels ~50%	Increase BP monitoring; consider alternate lipid lowering agent to minimize effect; consider increasing statin dose; consider using Rifabutin in place of Rifampin.
Inotropic/Chronotropic Agents			
Digoxin	↑ Cardiac output • Heart rate control with atrial arrhythmias	RIF: ↓ levels ~30%	Measure Digoxin levels prior to Rifampin therapy and then intermittently thereafter. Increase Digoxin dose as necessary to maintain therapeutic levels.
Antiplatelet Agents			
Clopidogrel	↓ Platelet adhesion	↑ Metabolism of Clopidogrel to active metabolite	Monitor for increased antiplatelet effects such as bruising or bleeding.

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