Erratum

Erratum to: Hepatitis C Treatment in HIV Coinfection: Approaches, Challenges, and Future Opportunities

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The original version of this article unfortunately contained a mistake. The alignment of entries in Table 1 was incorrect. On the second page of Table 1 (page 6/21), the columns for paritaprevir/ritonavir under NS3/4A Inhibitors are off.

The corrected Table 1 is given below.

Table 1. Direct-acting antiviral agents by class

	Dose	Pharmacokinetics	Selected Significant Drug Interactions (see package insert for additional)	HIV ARV Interactions ^g	Comments
NS5B Inhibitors					
Sofosbuvir (SOF)	400 mg	Substrate: P-gp and BCRP	Contraindicated or Not Recommended: -Amiodarone (symptomatic bradycardia) -P-gp Inducers ^a	-No clinically significant SOF-specific contraindications	-No dosing recommendation available in eGFR <30 mL/min
Dasabuvir (DSV)	250 mg (PrOD) 200 mg (PrOD XR)	Substrate: CYP2C8, 3A4, P-gp Inhibitor: UGT1A1, BCRP	Contraindicated or Not Recommended: -P-gp Inducers ^a -Gemfibrozil	-No clinically significant DSV-specific interactions	-Activity limited to GT 1 only -Risk of QT prolongation with ↑ DSV -Not recommended in severe hepatic impairment (CTP Class B or C)
NS5A Inhibitors					
Ledipasvir (LDV)	90 mg	Substrate: P-gp Inhibitor: P-gp, BCRP	Contraindicated or Not Recommended: -P-gp Inducers ^a -Rosuvastatin Other: -Acid-suppressing agents ^b	Other: -HIV ART containing TDF ^c	
Daclatasvir (DCV)	30 mg 60 mg 90 mg	Substrate: CYP3A4, P-gp Inhibitor: CYP3A4, P-gp, BCRP, OATP1B1/1B3	Contraindicated or Not Recommended: -Strong CYP3A4 Inducers ^a -Dabigatran Other: -Strong CYP3A4 Inhibitors ^e : ↓ DCV to 30 mg -Moderate CYP3A4 Inducers ^f : ↑ DCV to 90 mg	Increase DCV to 90 mg: -Efavirenz, etravirine, nevirapine Decrease DCV to 30 mg: -Atazanavir/ritonavir, indinavir, nelfinavir, saquinavir, cobicistat-containing regimens (excluding darunavir)	-Pangenotypic in vitro activity -Consider pre-treatment testing for presence of NS5A RAVs in certain patients (see text)
Elbasvir (EBR)	50 mg	Substrate: CYP3A4, P-gp Inhibitor: P-gp, BCRP	Contraindicated or Not Recommended: -P-gp and strong CYP3A4 Inducers ^a -CYP3A4 Inducers: nafcillin, bosentan, modafinil -CYP3A4 Inhibitors: ketoconazole Other: -HMG-CoA Reductase Inhibitors ^d : --Atorvastatin maximum dose 20 mg --Rosuvastatin maximum dose 10 mg	Contraindicated: -Efavirenz -HIV protease inhibitors Not Recommended: -Etravirine -Cobicistat-containing regimens	-Pre-treatment testing for NS5A RAVs recommended in patients with GT1a
Ombitasvir (OBV)	12.5 mg (PrOD, PrO) 8.8 mg (PrOD XR)	Substrate: P-gp Inhibitor: CYP2C8, UGT1A1	Contraindicated or Not Recommended: -P-gp Inducers ^a	-No clinically significant OBV-specific interactions	-Pangenotypic in vitro activity -Minimal hepatic metabolism

Table 1. (Continued)

	Dose	Pharmacokinetics	Selected Significant Drug Interactions (see package insert for additional)	HIV ARV Interactions ^g	Comments
Velpatasvir (VEL)	100 mg	Substrate: CYP3A4, 2C8, 2B6, P-gp Inhibitor: P-gp, BCRP, OATP1B1/3	Contraindicated or Not Recommended: -Topotecan -P-gp Inducers ^a Other: -Acid-suppressing agents ^b -Rosuvastatin: max dose 10 mg	Not Recommended: -Efavirenz -Etravirine -Nevirapine Other: -HIV ART containing TDF ^c	
NS3/4A Protease Inhibitor Simeprevir (SMV)	150 mg	Substrate: CYP3A4, P-gp Inhibitor: CYP1A2, intestinal CYP3A4, P-gp, OATP1B1	Contraindicated or Not Recommended: -P-gp Inducers ^a -CYP3A4 Inhibitors and Inducers -Erythromycin: increased erythromycin and SMV -Cyclosporine: increased SMV and cyclosporine -Cisapride: increased cisapride Other: -HMG-CoA Reductase Inhibitors ^d : --Atorvastatin max dose 40 mg --Rosuvastatin initial 5 mg, max dose 10 mg	Not recommended: -Cobicistat-containing products -Efavirenz -Nevirapine, etravirine, delavirdine -Any boosted or unboosted HIV protease inhibitors -Ritonavir	-Screening for NS3 Q80K polymorphism in GT1a infection is required -Not recommended in severe hepatic impairment (CTP Class B or C) -Serious photosensitivity reactions and rash have been observed -Contains a sulfonamide moiety
Paritaprevir/ ritonavir (PTVr)	75 mg/ 50 mg (PrOD, PrO) 50 mg/33.33 mg (PrOD XR)	Substrate: CYP3A4, CYP3A5, P-gp, OATP1B1, BCRP Inhibitor: CYP2C8, UGT1A1, CYP3A4 (due to ritonavir), P-gp, OATP1B1/3, BCRP	Contraindicated or Not Recommended: -P-gp Inducers ^a decreased PTV -Strong CYP3A4 inhibitors: afuzosin, ranolazine, dronedarone, colchicine, lurasidone, pimozone, ergot derivatives, ethinyl-estradiol-containing products, cisapride, lovastatin, simvastatin, sildenafil, triazolam, midazolam (oral)	Contraindicated: -Efavirenz: severe tolerability issues and ALT elevations -Lopinavir/ritonavir -Rilpivirine -Etravirine -Elvitegravir/cobicistat	-Contraindicated in severe hepatic impairment (CTP B or C) -If ritonavir is used in HIV ARV regimen, hold additional ritonavir upon initiation of PTVr
Grazoprevir (GZR)	100 mg	Substrate: CYP3A4, P-gp, OATP1B1 Inhibitor: BCRP, UGT1A1	Contraindicated or Not Recommended: -P-gp Inducers ^a -Cyclosporine -CYP3A4 Inducers: nafcillin, bosentan, modafinil -Ketoconazole	Contraindicated: -HIV Protease Inhibitors: Increased risk of ALT elevation -Efavirenz Not Recommended: -Etravirine	-Contraindicated in severe hepatic impairment (CTP B or C) due to increased GZR

Table 1. (Continued)

	Dose	Pharmacokinetics	Selected Significant Drug Interactions (see package insert for additional)	HIV ARV Interactions ^g	Comments
General Antiviral					
Ribavirin	1000 mg to 1200 mg (weight-based)	-Minimal to no CYP, transporter, or enzyme involvement	-HMG-CoA Reductase Inhibitors ^d : --Atorvastatin max dose 20 mg --Rosuvastatin max dose 10 mg	-Cobicistat-containing regimens	-Pregnancy category X -Dose adjust in patients with CrCl < 50 mL/min
<p>ART antiretroviral therapy, ARV antiretroviral, BCRP breast cancer resistance protein, CrCl creatinine clearance, CTP Child-Turcotte-Pugh, eGFR estimated glomerular filtration rate, GT Genotype, HIV human immunodeficiency virus, OATP organic anion-transporting polypeptide, P-gp P-glycoprotein, PI protease inhibitor, PPI proton pump inhibitor, RAV resistance-associated variants, TDF tenofovir disoproxil fumarate, UGT uridine 5'-diphospho-glucuronosyl transferase</p> <p>^aP-gp Inducers and strong CYP3A4 inducers referenced here include anticonvulsants (carbamazepine, oxcarbamazepine, phenobarbital, phenytoin), rifampin, St. John's Wort</p> <p>^bAcid-suppressing agents: Antacids should be separated from DAA therapy by 4 h. H2 antagonists should not to exceed equivalent of famotidine 40 mg twice daily, simultaneously or 12 h apart. PPI should not to exceed equivalent of omeprazole 20 mg drug-specific administration and should be administered simultaneously with LDV under fasted conditions while VEL should be taken with food 4 h before PPI</p> <p>^cIncreased TDF: Monitor if no other concomitant medications increasing TDF. If TDF is used with LDV and a boosted HIV PI, monitor for tenofovir-associated side effects. Coadministration of LDV/SOF, TDF, and elvitegravir, cobicistat, or emtricitabine is not recommended. If TDF is used with VEL and a boosted HIV PI, elvitegravir, cobicistat, and emtricitabine, monitor for tenofovir-associated side effects</p> <p>^dHMG-CoA Reductase Inhibitors: Use the lowest necessary dose</p> <p>^eStrong CYP3A4 inhibitors: clarithromycin, itraconazole, nefazodone, posaconazole, telithromycin, voriconazole</p> <p>^fModerate CYP3A4 inducers: bosentan, dexamethasone, modafinil, nafcillin, rifapentine</p> <p>^gTipranavir/ritonavir is contraindicated with all HIV ART due to lack of data and frequent anticipated interactions</p>					