PDF created November 18, 2018, 11:04 am

Cobicistat *(Tybost)*

Table of Contents

Drug Summary

Cobicistat is a pharmacokinetic booster that blocks the cytochrome P450 3A4 (CYP3A4) enzyme, resulting in decreased metabolism and increased concentration of many other medications. As a component of antiretroviral therapy, cobicistat is used to increase the levels of certain antiviral agents, including elvitegravir, atazanavir, and darunavir. Cobicistat does not have anti-HIV activity, unlike ritonavir, the other pharmacokinetic booster used as part of antiretroviral therapy. Cobicistat is also available in four coformulated products: atazanavir-cobicistat, darunavir-cobicistat, elvitegravir-cobicistat-tenofovir alafenamide-emtricitabine, and elvitegravir-cobicistat-tenofovir DF-emtricitabine. For patients needing a twice-daily protease inhibitor, cobicistat should not be used as a booster. Cobicistat is a nonselective enzymatic blocker that has the potential to cause significant drug interactions. The major side effects associated with cobicistat are gastrointestinal symptoms. Cobicistat blocks renal tubular secretion of creatinine and typically raises serum creatinine by about 0.1 mg/dL; this increase in serum creatinine does not represent a decrease in actual creatinine clearance. It is not recommended for use in combination with tenofovir DF in patients with an estimated creatinine clearance less than 70 mL/min.

Key Clinical Trials

A randomized, double-blind controlled trial compared atazanavir plus cobicistat plus 2 NRTIs to atazanavir plus ritonavir plus 2 NRTIs and found noninferior virologic suppression rates as well as similar safety and tolerability [GS-216-0114 (Study 114)]. An open-label, single-arm study enrolled treatment-naïve adults and a small number of treatment-experienced adults (all with HIV RNA above 1,000 copies/mL and with no darunavir-associated mutations) and administered darunavir plus cobicistat plus an optimized background regimen to all participants; the trial demonstrated overall high efficacy and tolerability through 48 weeks [GS-216-0130 (Study 130)]. Cobicistat has also been studied in multiple clinical trials as a booster for the integrase inhibitor elvitegravir (as part of the fixed-dose combination tablets elvitegravir-cobicistat-tenofovir disoproxil fumarate-emtricitabine and elvitegravir-cobicistat-tenofovir alafenamide-emtricitabine).

Adverse Effects

Common adverse effects of cobicistat are nausea and diarrhea. Cobicistat blocks tubular secretion of creatinine and thereby causes a mild benign elevation of serum creatinine and reduction of estimated GFR (with no effect on true or measured GFR); this elevation usually occurs during the first 4 to 8 weeks of use and then stabilizes and is not progressive beyond that time period.

Use In Pregnancy

In the HHS Perinatal Guidelines section Recommendations for Use of Antiretroviral Drugs During Pregnancy (last updated October 19, 2017), **cobicistat** is designated in the category of Not Recommended for Initial ART in Pregnancy. This recommendation is based on the limited data on cobicistat in pregnancy.

- For additional information regarding the safety and toxicity of cobicistat in pregnancy see the HHS Perinatal Guidelines summary on Cobicistat.

Key Drug Interactions

For complete information on cobicistat-related drug interactions, see the Drug Interactions section in the Cobicistat (*Tybost*) Prescribing Information.