UC San Diego Health

Efficacy and Safety of Bictegravir/Emtricitabine/Tenofovir Alafenamide in Combination with Boosted Darunavir in Treatment Experienced Patients with HIV

Lucas Hill[1], Jeremiah Momper[1], Kari Abulhosn[1], Craig Ballard[1], Maile Young[1]

[1] University of California San Diego

Background

- Bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) has been studied in treatment naïve people living with HIV (PLWH) and in switch therapy in suppressed patients[1,2]
- Minimal data using B/F/TAF in treatment experienced PLWH with antiretroviral (ARV) resistance
- Boosted darunavir (DRV), commonly used in treatment experienced PLWH inhibits CYP3A4 and p-glycoprotein
- Bictegravir is a substrate of CYP3A4 and TAF of p-glycoprotein and combination with boosted DRV may introduce drug interactions.[3]

Objective

- To evaluate the safety and efficacy of B/F/TAF in combination with boosted DRV in a real-world cohort

Methods

- Retrospective cohort analysis of patients started on B/F/TAF in combination with boosted darunavir between 2/2018 and 6/2019 followed for a minimum of 24 weeks and up to 48 weeks

Results

Safety and Tolerability

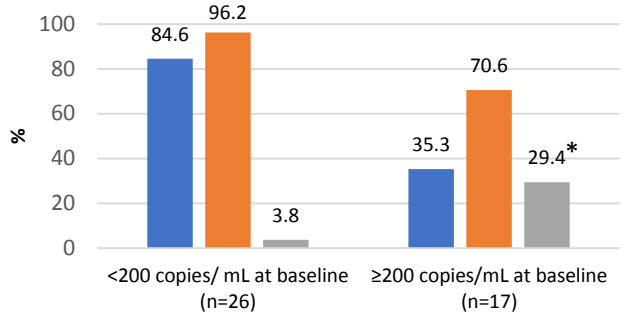
- 46 patients met criteria, of which 7 discontinued the regimen
- Mean time to discontinuation was 176 days
- Reasons for discontinuation included side effects of diarrhea (1) and rash (1), drug interaction (2), ongoing low level viremia (2), and simplification (1)
- No significant changes in weight or BMI over study period including patients not on INSTI at baseline (8)

Results

Table 1: Demographics, virologic, and treatment/resistance history for study population (n=46)

Mean Age (95% CI)	52 (49-55)
Gender (%)	
Male	36 (78.3)
Female	8 (17.4)
Transgender	2 (4.3)
Race (%)	
White	28 (60.9)
Black	5 (10.9)
Asian	1 (2.2)
Other	12 (26.1)
Ethnicity (%)	
Hispanic	16 (34.8)
Non-Hispanic	30 (65.2)
Pharmacokinetic enhancer (%)	
Cobicistat	45 (97.8)
Ritonavir	1 (2.2)
ARVs in prior regimen (mean, 95%CI)	3.9 (3.7-4.1)
VL<50 copies/mL at time of switch (%)	27 (58.7)
VL <200 copies/mL at time of switch (%)	29 (63.0)
CD4+ T-cell count (cells/mm3) (mean, 95% CI)	416 (337-495)
Number of previous ARVs (mean, 95% CI)	10.7 (9.5-11.8)
Number of ARV class resistance (%)	
Unknown	5 (10.9)
0	4 (8.7)
1	6 (13.0)
2	18 (39.1)
3	12 (26.1)
4	1 (2.2)
Documented integrase inhibitor resistance (%)	4 (8.7)
Reason for regimen change (%)	
Side effects	4 (8.7)
Poor adherence/resistance	17 (37.0)
Low level/ongoing viremia	5 (10.9)
Regimen simplification	18 (39.1)
Drug interaction	2 (4.3)
Follow up time (days) (mean, 95% CI)	312 (280-345)

Figure 1: Week 24 virologic outcomes



*viral loads ranged from 205-880 copies/mL

- All patients with INSTI resistance maintained (2) or achieved (2) VL <50 copies/mL

Figure 2: Change in mean serum creatinine over time

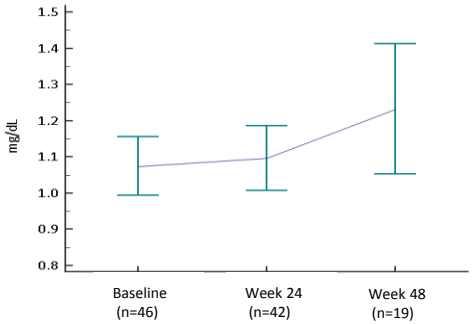
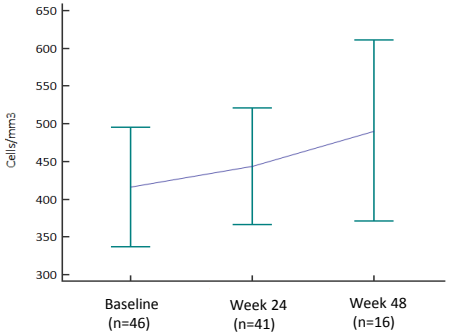


Figure 3: Change in mean CD4 count over time



Conclusion

- In a highly treatment experienced population in which 67% of patients had resistance to at least 2 antiretroviral classes B/F/TAF in combination with boosted DRV was efficacious in maintaining viral suppression as well as achieving viral suppression in 70.6% of those not previously suppressed
- B/F/TAF with boosted DRV was well tolerated with no significant safety concerns

References

[1] Gallant J, Lazzarin A, Mills A, et al. Bictegravir, emtricitabine, and tenofovir alafenamide versus dolutegravir, abacavir, and lamivudine for initial treatment of HIV-1 infection: a double-blind, multicentre, phase 3, randomised controlled non-inferiority trial. Lancet. 2017;390:2063-2072..

[2] Molina JM, Ward D, Brar I, et al. Switching to fixed-dose bictegravir, emtricitabine, and tenofovir alafenamide from dolutegravir plus abacavir and lamivudine in virologically suppressed adults with HIV-1: 48 week results of a randomized, double-blind, multicenter, active-controlled, phase 3, non-inferiority trial. Lancet HIV. 2018;5:e357-365.

[3] Biktarvy package insert