Dolutegravir versus Lopinavir-Ritonavir in Second-Line Treatment

DAWNING

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DAWNING: Study Design

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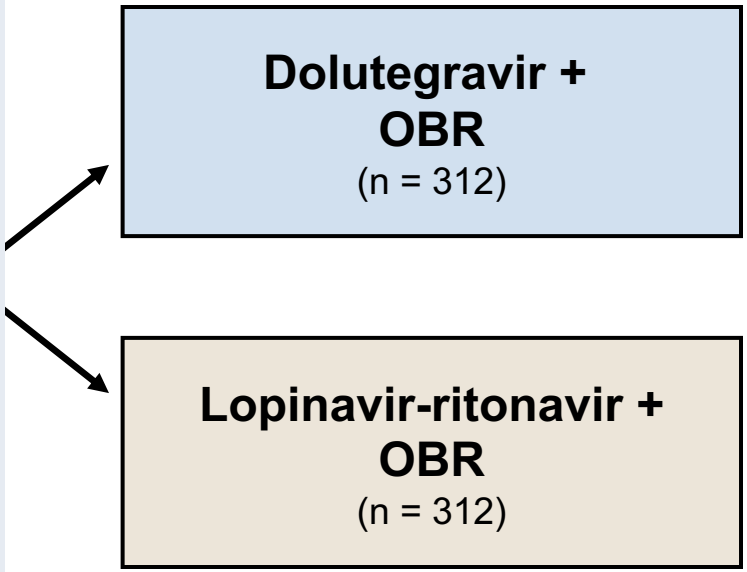
- **Background**: Randomized, open-label, multinational, non-inferiority phase 3b trial comparing dolutegravir to boosted lopinavir, each with optimized background regimen (OBR) after failure of NNRTI-based first-line ART
- **Inclusion Criteria**
  - Antiretroviral-experienced adults
  - Virologic failure on NNRTI plus 2 NRTI's
  - HIV RNA ≥400 copies/mL at 2 consecutive visits
  - INSTI and PI-naïve
  - ≥1 active NRTI available based on genotype
  - HBV and HCV allowed
- **Treatment Arms**
  - Dolutegravir 50 mg daily + investigator-selected OBR (including at least 1 active NRTI)
  - Lopinavir + ritonavir* + investigator-selected OBR (including at least 1 active NRTI)



*Once-daily lopinavir 800 mg + ritonavir 200 mg or twice daily lopinavir 400 mg + 100 mg, based on investigator discretion

Source: Aboud M, et al. Lancet Infect Dis. 2019;19:253-64.

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DAWNING: Baseline Characteristics

Baseline Characteristics in DAWNING Study		
	DTG + OBR (n = 312)	**LPV-RTV + OBR** (n = 312)
Age, mean	37.5	38.7
Women, n, %	116 (37%)	103 (33%)
Hispanic or Latino	105 (34%)	109 (35%)
African American or African	130 (42%)	112 (36%)
Viral hepatitis (HBV, HCV, or both)	35 (11%)	38 (12%)
WHO category C (AIDS)	107 (34%)	95 (30%)
Mean HIV RNA, $\log_{10}$ copies/mL	4.2	4.2
HIV RNA >100,000 copies/mL	70 (22%)	63 (20%)
CD4 count <200 cells/mm^3	166 (53%)	151 (48%)

Source: Aboud M, et al. Lancet Infect Dis. 2019;19:253-64.

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DAWNING: Previous ART History

Previous Antiretroviral History in DAWNING Study		
	DTG + OBR (n = 312)	**LPV-RTV + OBR** (n = 312)
Duration prior ART, median, weeks	86.4	90.9
Previous NNRTI therapy		
Efavirenz	242 (78%)	242 (78%)
Nevirapine	70 (22%)	69 (22%)
Previous NRTI therapy		
Tenofovir DF	181 (58%)	186 (60%)
Zidovudine	89 (29%)	89 (29%)
Stavudine	15 (5%)	9 (3%)
Lamivudine or emtricitabine	311 (99%)	310 (99%)

Source: Aboud M, et al. Lancet Infect Dis. 2019;19:253-64.

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DAWNING: Optimized Background Regimens

Optimized background regimens (OBRs) in DAWNING Study Second-Line ART		
	DTG + OBR (n = 312)	**LPV-RTV + OBR** (n = 312)
NRTIs in second-line regimen		
Zidovudine plus lamivudine	132 (42%)	121 (39%)
Tenofovir DF plus lamivudine or emtricitabine	128 (41%)	134 (43%)
Tenofovir DF plus zidovudine	36 (12%)	41 (13%)
Abacavir plus lamivudine	7 (2%)	7 (2%)
Stanford genotype susceptibility score in background ART		
0 to <1	30 (10%)	36 (12%)
1 to <2	223 (71%)	212 (68%)
2	61 (20%)	64 (21%)
>2	0	0

Source: Aboud M, et al. Lancet Infect Dis. 2019;19:253-64.

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DAWNING: Baseline NRTI Resistance

Baseline NRTI Resistance-Associated Mutations in DAWNING Study		
	DTG + OBR (n = 312)	**LPV-RTV + OBR** (n = 312)
K65R	95 (30%)	92 (29%)
K70E	33 (11%)	37 (12%)
M184I/V only	77 (25%)	85 (27%)
M184I/V plus any other NRTI mutation	184 (59%)	167 (54%)
TAM's	71 (23%)	81 (26%)
Other major NRTI mutation	90 (29%)	88 (28%)

Source: Aboud M, et al. Lancet Infect Dis. 2019;19:253-64.

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