

# DURABLE EFFICACY AND SAFETY OF DTG + 3TC IN TREATMENT-NAIVE PEOPLE WITH HIV-1 STRATIFIED BY AGE: 144-WEEK RESULTS FROM GEMINI-1 AND -2

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## Introduction

- Advances in ART have markedly improved life expectancy for people with HIV<sup>1</sup>
- As they age, people with HIV may experience non-AIDS-related comorbidities requiring multiple concomitant medications, resulting in a need for simplified ART regimens to minimize cumulative drug exposure<sup>2</sup>
- In the GEMINI-1 (NCT02831673) and GEMINI-2 (NCT02831764) trials, DTG + 3TC was demonstrated to be non-inferior to DTG + TDF/FTC in achieving plasma HIV-1 RNA <50 c/mL in treatment-naive adults with HIV-1 at Weeks 48, 96, and 144<sup>3-5</sup>
- Here, we present efficacy and safety results from GEMINI-1 and -2 through Week 144 stratified by age group (<50, ≥50 to <65, and ≥65 years)

## Methods

- GEMINI-1 and -2 are identically designed, randomized, double-blind, parallel-group, multicenter, phase III, non-inferiority studies<sup>3</sup>
- Participants with no prior treatment experience, screening HIV-1 RNA ≤500,000 c/mL, and no detectable pre-existing viral resistance based on the presence of any major resistance-associated mutations were randomized (1:1) to once-daily DTG + 3TC or DTG + TDF/FTC, stratified by plasma HIV-1 RNA and CD4+ cell count (Figure 1)

Figure 1. GEMINI-1 and GEMINI-2 Study Design



## Results

### Participants and Baseline Characteristics

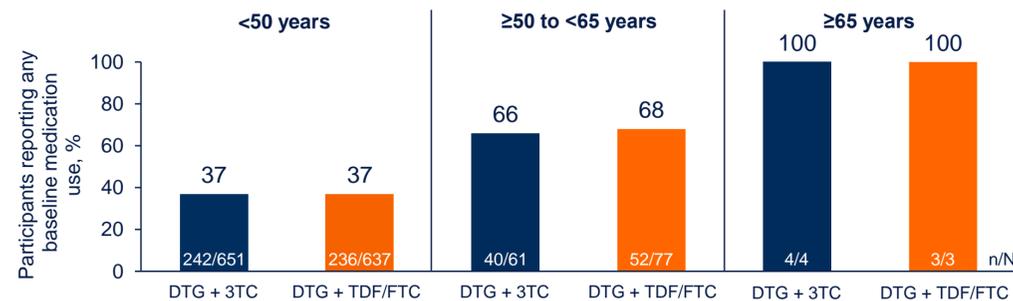
- 1433 participants in GEMINI-1 and -2 were randomized and received ≥1 dose of study medication (DTG + 3TC, N=716; DTG + TDF/FTC, N=717)
- Participants were divided into 3 age strata: <50 years (DTG + 3TC, n=651; DTG + TDF/FTC, n=637), ≥50 to <65 years (DTG + 3TC, n=61; DTG + TDF/FTC, n=77), and ≥65 years (DTG + 3TC, n=4; DTG + TDF/FTC, n=3; Table 1)
- At baseline, high viral load and low CD4+ cell count were more prevalent in older participants on DTG + 3TC

Table 1. Baseline Characteristics Stratified by Age Group

n (%)	<50 years		≥50 to <65 years		≥65 years	
	DTG + 3TC (N=651)	DTG + TDF/FTC (N=637)	DTG + 3TC (N=61)	DTG + TDF/FTC (N=77)	DTG + 3TC (N=4)	DTG + TDF/FTC (N=3)
HIV-1 RNA, c/mL						
>100,000	118 (18)	138 (22)	19 (31)	14 (18)	3 (75)	1 (33)
CD4+ cell count, cells/mm <sup>3</sup>						
<200	48 (7)	47 (7)	12 (20)	6 (8)	3 (75)	1 (33)
200 to <350	167 (26)	143 (22)	12 (20)	23 (30)	0	0
≥350	436 (67)	447 (70)	37 (61)	48 (62)	1 (25)	2 (67)

- Baseline medication use increased with age in both the DTG + 3TC and DTG + TDF/FTC groups (Figure 2)

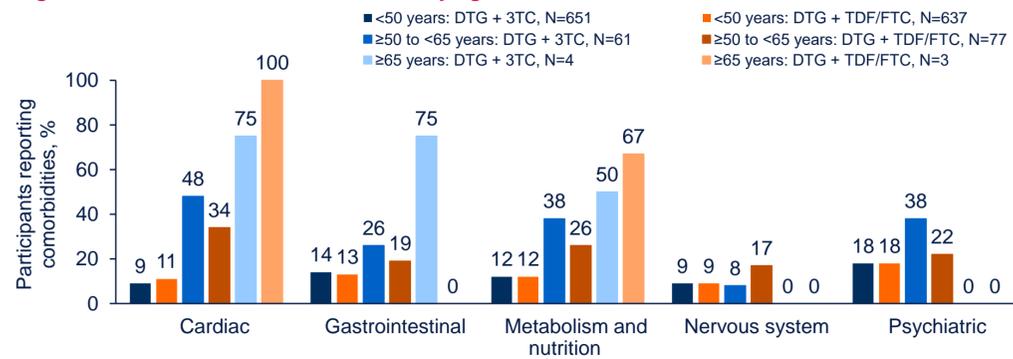
Figure 2. Rates of Baseline Medication Use<sup>a</sup> Stratified by Age



<sup>a</sup>Anatomical therapeutic chemical (ATC) level 1 terms of interest.

- Generally, rates of comorbidities increased with age in both the DTG + 3TC and DTG + TDF/FTC groups (Figure 3)

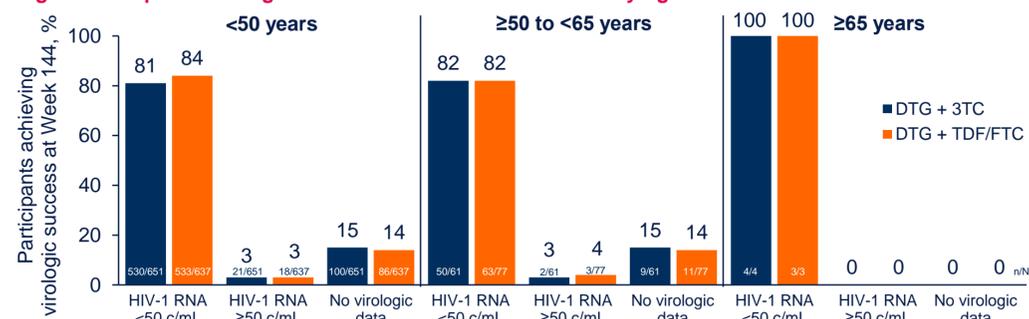
Figure 3. Rates of Comorbidities Stratified by Age



### Virologic Response and CD4+ Cell Count at Week 144

- Proportions of participants achieving virologic response (HIV-1 RNA <50 c/mL; Snapshot) at Week 144 were comparable in the DTG + 3TC and DTG + TDF/FTC groups (Figure 4)
- Across age strata, mean change from baseline in CD4+ cell count was also comparable in the DTG + 3TC and DTG + TDF/FTC groups at Week 144

Figure 4. Snapshot Virologic Outcomes at Week 144 Stratified by Age



## Safety

- Drug-related AEs were less frequent in the DTG + 3TC vs DTG + TDF/FTC group in participants aged <50 years and in those aged ≥50 to <65 years (Table 2)

Table 2. Safety Outcomes at Week 144 Stratified by Age

Outcomes	DTG + 3TC (N=716)			DTG + TDF/FTC (N=717)		
	<50 (N=651)	≥50 to <65 (N=61)	≥65 (N=4)	<50 (N=637)	≥50 to <65 (N=77)	≥65 (N=3)
AEs	562 (86)	47 (77)	4 (100)	552 (87)	71 (92)	2 (67)
AEs leading to withdrawal	29 (4)	2 (3)	0	25 (4)	6 (8)	0
Drug-related AEs	137 (21)	9 (15)	0	173 (27)	19 (25)	0
Grade 3-4 AEs	75 (12)	9 (15)	1 (25)	74 (12)	14 (18)	0

## Conclusions

- In people with HIV-1 in the GEMINI studies, increased age was generally associated with higher rates of baseline medication use and comorbidities
- Through 144 weeks of treatment, virologic response rates were high and comparable in the DTG + 3TC and DTG + TDF/FTC groups. In participants aged ≥50 years, response rates were consistent with those in the younger age group
- Mean change from baseline in CD4+ cell count was comparable in the DTG + 3TC and DTG + TDF/FTC groups regardless of age
- Overall AE rates were similar across treatment groups and age strata; drug-related AEs were less frequent in the DTG + 3TC vs DTG + TDF/FTC group in participants aged <50 years and in those aged ≥50 to <65 years
- Although the numbers are small, this analysis in treatment-naive participants suggests that overall DTG-based efficacy and tolerability observed in the subgroup aged <50 years are comparable to those in the subgroup aged ≥50 years

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## References

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