Efficacy and Safety of Tenofovir Alafenamide (TAF) vs Tenofovir DF in HIV-infected Virologically Suppressed Older Adults: Subgroup Analysis of a Randomized Switch Study

Poster Number

P-20

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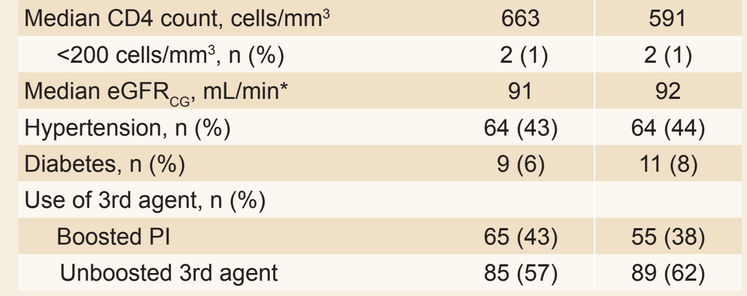
Background

- Tenofovir alafenamide (TAF):
  - N(t)RTI agent in most guideline-recommended regimens
  - Replaced tenofovir disoproxil fumarate (TDF)[1] or included in addition to TDF[2,3]
  - Based on data including 48-week efficacy in treatment naïve patients with TAF vs TDF, each with elvitegravir (EVG)/cobicistat (COBI)/ emtricitabine (FTC) (Studies 104/111): 92% vs 90%
    - TAF superior to TDF at Week 144: 84% vs 80%[4]
- FTC/TAF (vs FTC/TDF) with other 3rd agents (Study 1089)
  - Similar overall efficacy at Week 48 (94% vs 93%)[5] and Week 96 (89% vs 89%)[6]
  - Less renal and bone toxicities
- FTC/TAF-containing single-tablet regimens
  - EVG/COBI/FTC/TAF
  - rilpivirine/FTC/TAF
  - Can be used in patients with eGFR as low as 30 mL/min[7,8]

Methods

Study Design: Switch From FTC/TDF to FTC/TAF



*FTC/TAF dose:
- 200/10 mg with boosted PIs
- 200/25 mg with unboosted 3rd agents

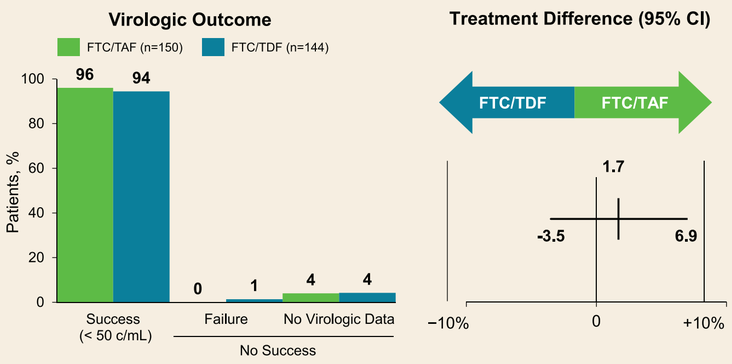
- Randomized, double-blind, double-dummy, active-controlled study (NCT02121795)

Results

Baseline Characteristics
Subgroup ≥50 years of age

	FTC/TAF n=150	FTC/TDF N=144
Median age, y (range)	55 (50–78)	54 (50-79)
Female, n (%)	17 (11)	18 (13)
Race, n (%)		
White	118 (79)	121 (84)
Black or African descent	26 (17)	18 (13)
Other	6 (4)	5 (3)
Median CD4 count, cells/mm^3	663	591
<200 cells/mm^3, n (%)	2 (1)	2 (1)
Median $eGFR_{CG}$, mL/min*	91	92
Hypertension, n (%)	64 (43)	64 (44)
Diabetes, n (%)	9 (6)	11 (8)
Use of 3rd agent, n (%)		
Boosted PI	65 (43)	55 (38)
Unboosted 3rd agent	85 (57)	89 (62)

Efficacy at Week 48 (Snapshot)
Subgroup ≥50 years of age



- Median change from baseline CD4 count (FTC/TAF vs FTC/TDF): 4 vs 5 cells/μL

Results

Overall Safety
Subgroup ≥50 years of age; Week 48

	FTC/TAF n=150	FTC/TDF N=144
Any AE	83	77
Drug-related	10	10
Grade 3-4 AE	4	3
Drug-related	0	1
Serious AE	4	4
Drug-related	0	<1
AE-related discontinuation	3	1

Adverse Events
Subgroup ≥50 years of age; Week 48

All Grades, *%	FTC/TAF n=150	FTC/TDF N=144
Diarrhea	12	10
Headache	9	4
Back pain	8	5
Upper respiratory tract infection	7	15
Fatigue	7	6
Arthralgia	7	3
Bronchitis	6	7
Cough	6	6
Nasopharyngitis	5	6
Sinusitis	3	4

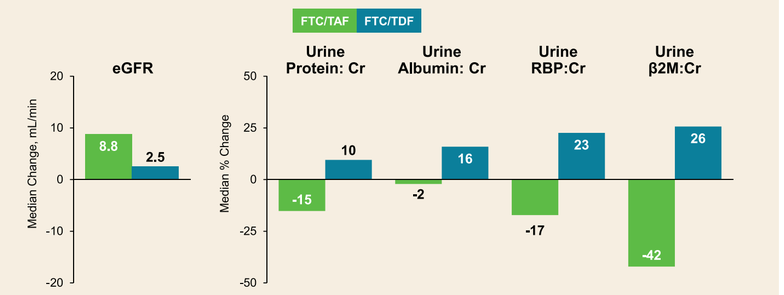
Adverse Events Leading to Discontinuation
Subgroup ≥50 years of age; Week 48

n%	FTC/TAF n=150	FTC/TDF N=144
AE leading to discontinuation	**5 (3)**	**2 (1)**
Atrial fibrillation	1	—
Dysphagia	1	—
Peripheral edema	1	—
Insomnia / Mood altered	1	—
Overdose	1	—
Feeling abnormal / Headache	—	1
Blood creatinine increased	—	1

Grade 3/4 Laboratory Abnormalities
Subgroup ≥50 years of age; Week 48

≥1% in either group, %	FTC/TAF n=150	FTC/TDF N=144
LDL (fasting)	6	2
Hyperbilirubinemia	3	5
Hypercholesterolemia (fasting)	3	<1
Creatinine kinase	2	2
GGT	1	3
Glycosuria	<1	2
AST	<1	1

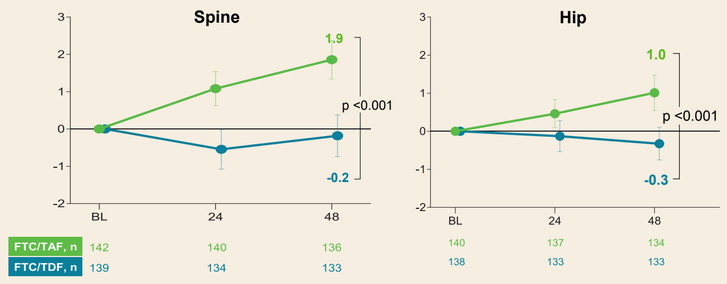
Change in Renal Biomarkers
Subgroup ≥50 years of age; Week 48



eGFR, estimated glomerular filtration rate; Cr, creatinine; RBP, retinol binding protein; β2M, β2-microglobulin.

- All differences between treatments were statistically significant (p <0.001)

Change in Bone Mineral Density
Subgroup ≥50 years of age; Week 48

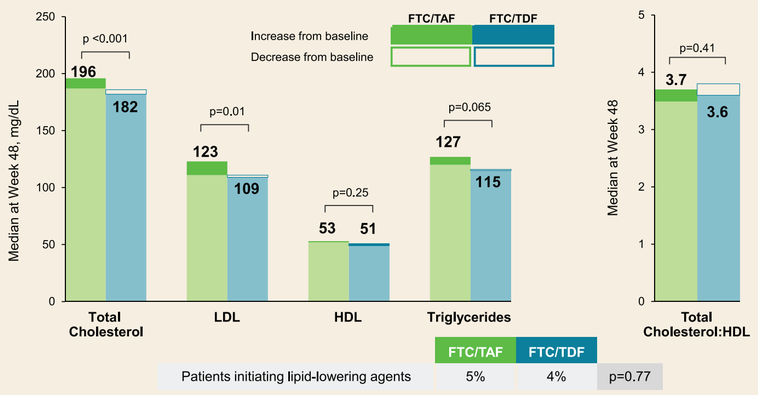


Renal and Bone Safety
Subgroup ≥50 vs <50 years of age; Week 48

	Age ≥50 Years		Age <50 Years	
Changes at Wk48	FTC/TAF n=150	FTC/TDF N=144	FTC/TAF N=183	FTC/TDF N=186
Median eGFR, mL/min	+8.8	+2.5	+7.9	+2.9
Renal markers, median %				
Urine Protein: Cr	-15	+10	-15	+4
Urine Albumin: Cr	-2	+16	-14	+9
Urine RBP: Cr	-17	+23	-16	+13
Urine β2M: Cr	-42	+26	-33	+17
Bone mineral density, mean %				
Spine BMD	+1.9	-0.2	+1.3	-0.2
Hip BMD	+1.0	-0.3	+1.2	-0.02

*p-values for all between-group differences were ≤0.006
eGFR, estimated glomerular filtration rate; Cr, creatinine; RBP, retinol binding protein; β2M, β2-microglobulin

Lipids
Subgroup ≥50 years of age; Week 48



Conclusions

- In HIV patients aged ≥ 50 years, FTC/TAF demonstrated
  - High rates of virologic suppression
  - Improved bone and renal safety versus FTC/TDF
  - Small increases in lipids
    - No differences in total cholesterol to HDL ratio versus FTC/TDF
  - Efficacy and safety, including renal and bone safety profile, consistent with overall study population and those < 50 years
- FTC/TAF is an important backbone for older patients living with HIV

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Disclosures

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