



HIV-positive subjects treated with single tablet regimens (STR) when ART-naïve in clinical practice

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Disclosure

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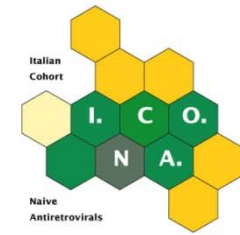
No conflicting interests

I have read and understood ICMJE policy on declaration of interests and declare that I have no conflicting interests



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Background

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- Elvitegravir/cobicistat/emtricitabine(FTC)/tenofovir(TDF) (E/C/F/TDF or Stribild) is a fixed-dose single tablet regimen (STR) for the treatment of HIV
- E/C/F/TDF has been approved for use in Europe since May 28, 2013 in ART-naïve individuals and as a simplification strategy in patients with viremia ≤ 50 copies/mL
- Although proved to be effective in randomised clinical trials, there is currently little data from people using E/C/F/TDF in routine clinical practice.

Objectives

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- To describe demographics and HIV-related characteristics at time of initiation of first cART (exactly 3 drugs) in three groups concomitantly initiating treatment:
 - i) STR with Stribild
 - ii) Other STR, not Stribild
 - iii) Multiple tablet regimens (MTR)
- To compare the rates of discontinuation, virological and treatment failure across the three treatment groups

Methods (1)

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Study population

Anyone in the Icona Foundation Study who has ever started treatment with exactly 3 antiretrovirals after January 1, 2013 from ART-naïve

Analysis design

Participants were stratified into Stribild, other STR and other multiple tablet cART regimens (MTR)

Endpoints included:

- i) Virological failure (VF); single value >200 copies/mL after >6 months of therapy from ART initiation
- ii) Stop (first date of discontinuation of ≥ 1 drug in regimen regardless of the reason)
- iii) Treatment failure (TF) = virological failure or stop

Methods (2)

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Statistical Analysis

- The cumulative incidence of TF was estimated by the Kaplan-Meier method (point estimate, 95% CI and log-rank test), stratified by treatment group
- Reasons for discontinuation as reported by clinicians are described
- A multivariable Cox regression model was performed for the endpoint of TF. Intention-to-treat analysis ignoring what happens after first line

Main characteristics by treatment group (1)

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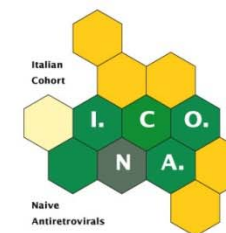


Characteristics	Treatment groups			p-value*
	Stribild	Other STR	MTR	
	N= 204	N= 693	N= 1,278	
Gender, %				<.001
Female	14%	16%	23%	
Mode of HIV Transmission, %				<.001
PWID	4%	7%	7%	
MSM	62%	53%	42%	
Heterosexual contacts	28%	32%	42%	
Other/Unknown	5%	8%	9%	
Nationality, %				0.05
Not Italian	23%	20%	24%	
AIDS diagnosis, %	5%	2%	5%	<.001

*Chi-square test

Main characteristics by treatment group (2)

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	Treatment groups			
Characteristics	Stribild	Other STR	MTR	p-value*
	N= 204	N= 693	N= 1,278	
Hepatitis co-infection, %				<.001
No	35%	50%	35%	
Yes	3%	6%	4%	
Not tested	62%	44%	61%	
Calendar year of baseline				<.001
Median (IQR)	2015 (2014, 2015)	2014 (2013, 2014)	2014 (2013, 2014)	
Age, years				<.001
Median (IQR)	38 (32, 47)	36 (29, 43)	39 (31, 48)	
CD4 count, cells/mm³				<.001
Median (IQR)	387 (225, 544)	429 (333, 549)	313 (136, 459)	
Viral load, log₁₀ copies/mL				<.001
Median (IQR)	4.7 (3.9, 5.1)	4.3 (3.7, 4.7)	4.8 (4.1, 5.3)	
>100,000 copies/mL	33%	11%	4%	<.001

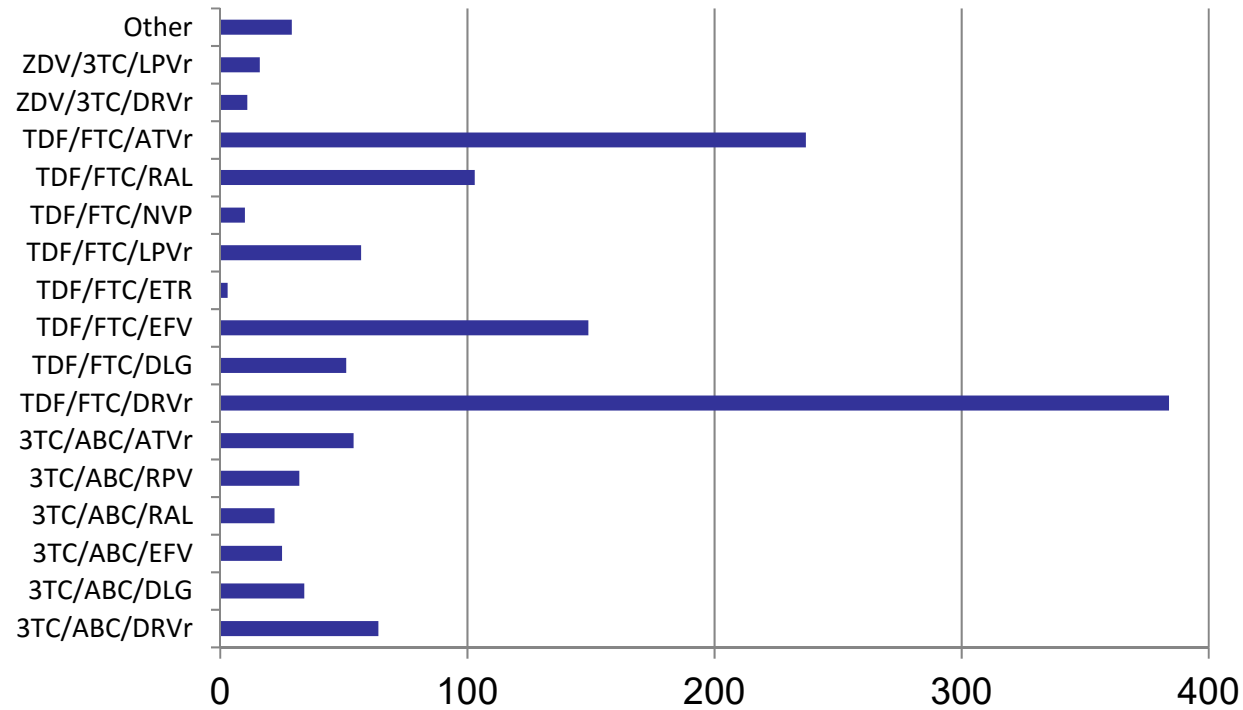
* Chi-square or Kruskal-Wallis test as appropriate

Specific antiretrovirals use

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No. of participants starting MRT



No. of participants starting Other STR

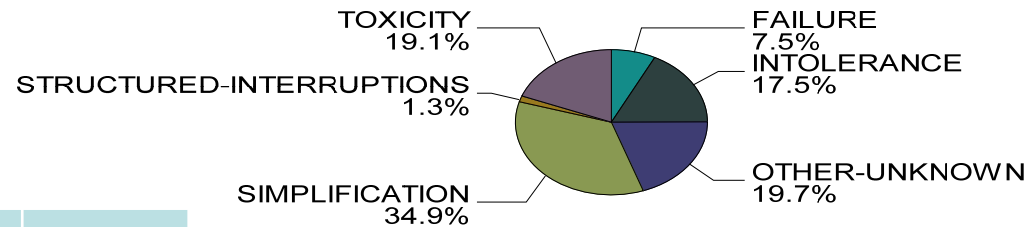


Reasons for stopping by treatment group

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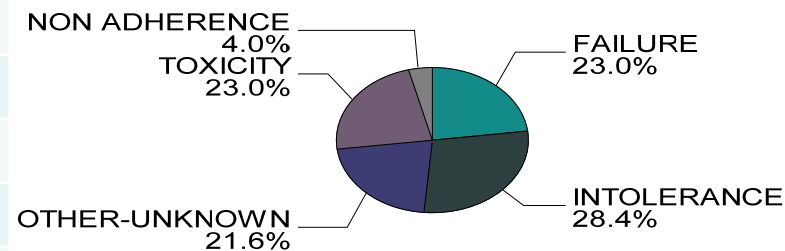


Treatment=MTR

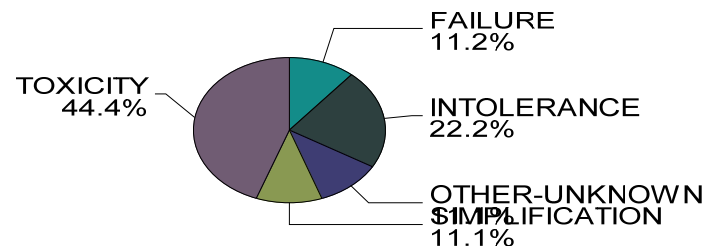


Other STR	No.
Failure	17
Interruptions	1
Intolerance	21
Simplification	2
Toxicity	17
Other/Unknown	16
Total	74

Treatment=Other-STR



Treatment=Stribild



MTR	No.
Failure	27
Interruptions	5
Intolerance	64
Simplification	128
Toxicity	70
Non-adherence	8
Other/Unknown	80
Total	374

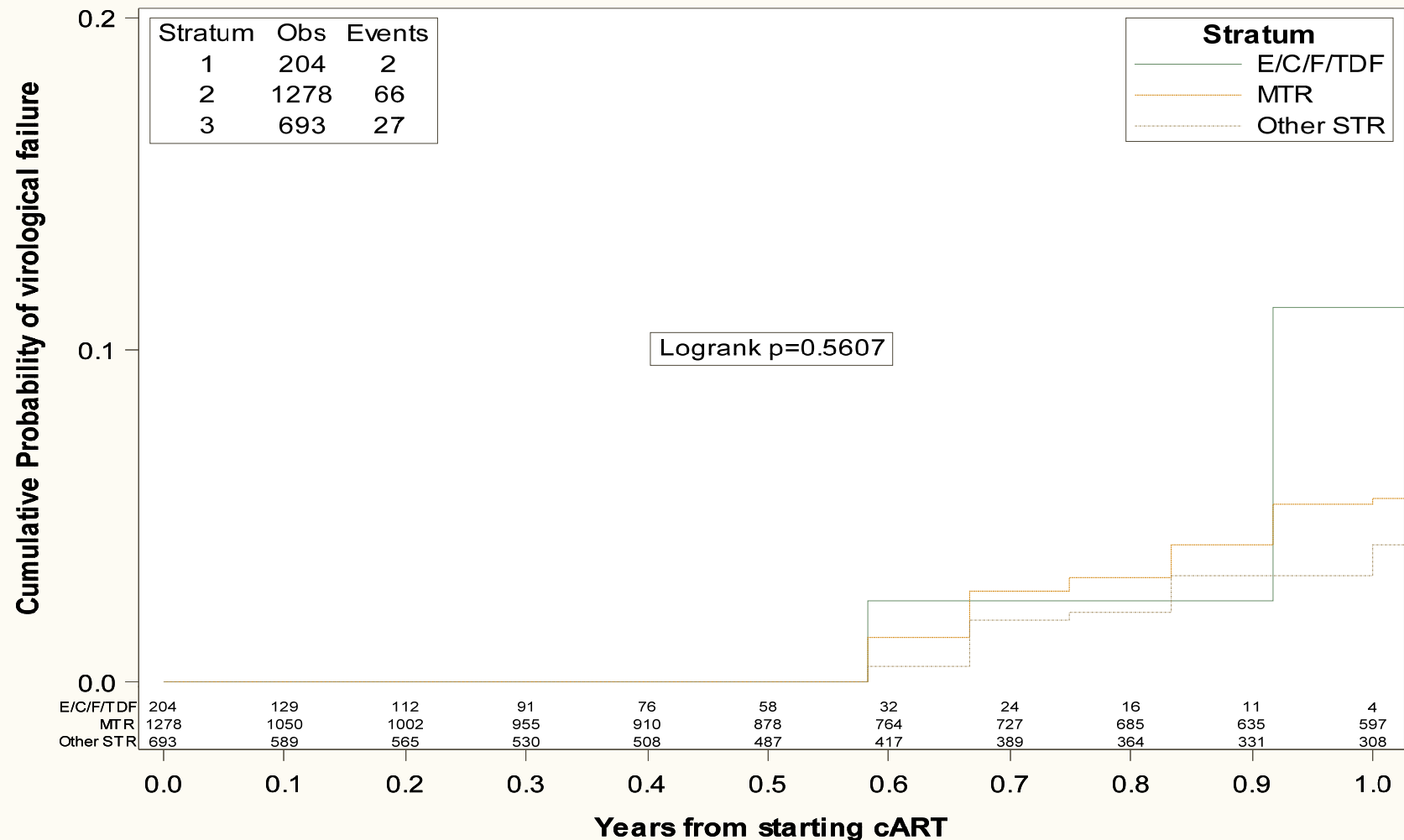
Stribild	No.
Failure	1
Interruptions	0
Intolerance	2
Simplification (mono)	1
Toxicity	4
Other/Unknown	1
Total	9

KM estimates of time to virological failure

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Outcome: Single VL>200 copies/mL

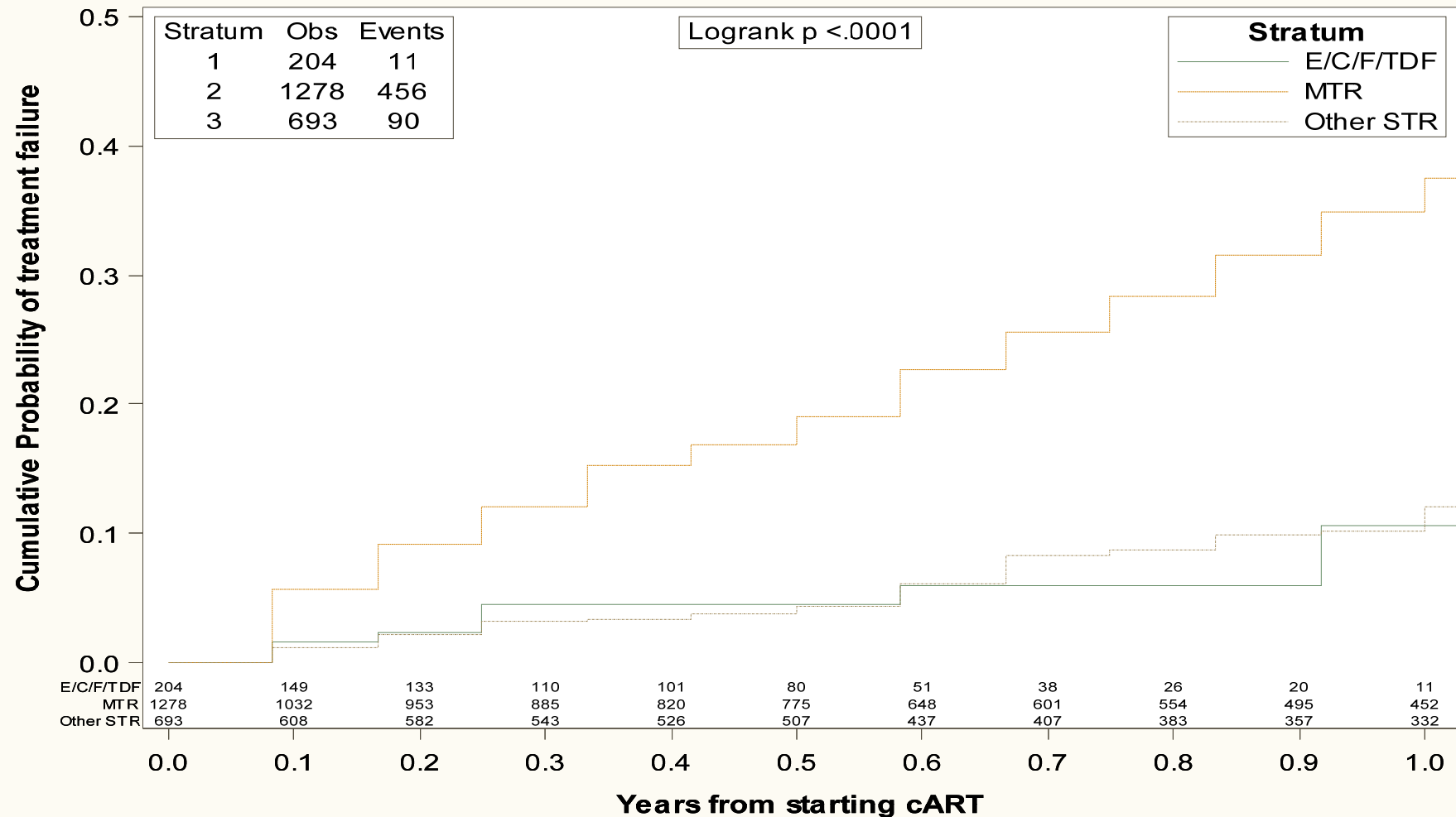


KM estimates of time to treatment failure

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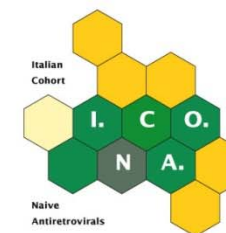


Outcome: Single VL>200 copies/mL or discontinuation



RH from fitting a Cox regression model (1)

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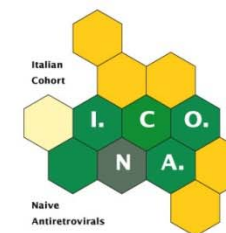
	Unadjusted and adjusted relative hazards of VL>200 or discontinuation			
	Unadjusted RH (95% CI)	p-value	Adjusted* RH (95% CI)	p-value
Treatment Group				
MTR	1.00		1.00	
Stribild	0.31 (0.17, 0.57)	<.001	0.30 (0.15, 0.61)	<.001
Other STR	0.30 (0.24, 0.38)	<.001	0.28 (0.22, 0.37)	<.001

Adjusted for:

gender, mode of HIV transmission, nationality, AIDS diagnosis, HCVAb status, calendar year of initiation of ART, age, CD4 count and VL at ART initiation, use of the following NRTIs: zidovudine, 3TC, abacavir in first line cART

RH from fitting a Cox regression model (2)

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Sensitivity analysis restricted to those with 501-100,000 copies/mL at starting cART

	Unadjusted and adjusted relative hazards of VL>200 or discontinuation			
	Unadjusted RH (95% CI)	p-value	Adjusted* RH (95% CI)	p-value
Treatment Group				
MTR	1.00		1.00	
Stribild	0.17 (0.05, 0.53)	0.002	0.15 (0.05, 0.49)	0.002
Other STR	0.27 (0.20, 0.37)	<.001	0.25 (0.18, 0.34)	<.001

Adjusted for:

gender, mode of HIV transmission, nationality, AIDS diagnosis, HCVAb status, calendar year of initiation of ART, age, CD4 count and VL at ART initiation, use of the following NRTIs: zidovudine, 3TC, abacavir in first line cART

Limitations

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- Confounding by indication
- Short follow-up
- Control STR group mostly included FTC/TDF/RPV which can only be started at low viral load
- Control MTR group was mostly made of 2NRTI+PI/r

Conclusions

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- In HIV-infected people in our cohort who received Stribild as first-line treatment from ART-naïve, the rate of virological failure was low and similar to that observed with other concomitantly started cART
- Our analysis confirms that STR regimens are better tolerated than the concomitantly used MTR. The rate of treatment failure was indeed significantly higher in the MTR group than in STRs
- Data from randomised studies are needed to confirm this observation