Outcomes of first ART in Latino populations in North America and Latin America

Abstract 580

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Background

- HIV outcomes and response to ART may be influenced by viral, host, and environmental factors, and differences in health care settings
- We therefore **compared rates of virologic failure (VF) and mortality** between HIV-infected adults living in Latin America and those with Latino ethnicity in North America

Methods

- ART-naive HIV+ adults initiating ART from 2000-2012 at CCASAnet sites in Argentina, Brazil, Chile, Honduras, Mexico and Peru and at NA-ACCORD sites in the US and Canada (if they were of Latino ethnicity) were compared
- Latino ethnicity was by Latin American origin or self-report
- All-cause mortality was compared between cohorts, accounting for sex, age, AIDS at ART start, nadir CD4, calendar year, and regimen class, using Cox proportional hazards models. Prevalence of viral load >400 copies/mL (VF) was compared by negative binomial regression.

Acknowledgements

NA-ACCORD: This work was supported by grants U01-AI069918, U01-AA013566, U24-AA020794, U01-AA020790, U01-AI31834, U01-AI34989, U01-AI34993, U01-AI34994, U01-AI35004, U01-AI35039, U01-AI35040, U01-AI35041, U01-AI35042, U01-AI37613, U01-AI37984, U01-AI38855, U01-AI38858, U01-AI42590, U01-AI68634, U01-AI68636, U01-AI69432, U01-AI69434, U01-DA036935, U01-HD32632, U10-EY08052, U10-EY08057, U10-EY08067, U54-MD007587, UL1-RR024131, UL1-TR000083, UM1-AI35043, G12-MD007583, K01-AI071754, K01-AI093197, K23-EY013707, K24-DA00432, K24-AI065298, KL2-TR000421, MO1-RR-00052, N02-CP55504, P30-AI027763, P30-AI094189, P30-AI27757, P30-AI27767, P30-AI036219, P30-AI50410, P30-AI54999, P30-MH62246, R01-AA16893, R01-CA165937, R01-DA04334, R01-DA11602, R01-DA12568, R24-AI067039, R56-AI102622, F31-DA037788, Z01-CP010214, and Z01-CP010176 from the National Institutes of Health, USA; contract CDC200-2006-18797 from the Center's for Disease Control and Prevention, USA; contract 90047713 from the Agency for Healthcare Research and Quality, USA; contract 90051652 from the Health Resources and Services Administration, USA; grants TGF-96118, HCP-97105, CBR-86906, CBR-94036 from the Canadian Institutes of Health Research, Canada; Canadian Institutes of Health Research (CIHR) New Investigator award (A. Burchell); Ontario Ministry of Health and Long Term Care; and the Government of Alberta, Canada. Additional support was provided by the Intramural Research Program of the National Cancer Institute, National Institutes of Health.

CCASAnet: This work was supported by grant 2-U01-AI069923 from the National Institutes of Health, USA.

Results

Table 1: Characteristics at ART initiation, Latinos in CCASAnet (N=9,694) and NA-ACCORD (N=3,253)

ART initiators in CCASAnet were younger, more likely female, less likely to have injection drug use as HIV transmission risk, more likely to have AIDS, and more immunosuppressed compared with those in NA-ACCORD.

Characteristic	CCASAnet	NA-ACCORD	P-value
Age, years	35 (29 - 43)	37 (30 - 44)	< 0.01
Sex			< 0.01
Female	2,567 (26.5%)	657 (20.2%)	
Male	7,127 (73.5%)	2,596 (79.8%)	
Route of infection			< 0.01
Heterosexual	4,348 (44.9%)	1,207 (37.1%)	
MSM	3,848 (39.7%)	1,517 (46.6%)	
IDU	193 (2.0%)	409 (12.6%)	
Other	75 (0.8%)	95 (2.9%)	
Unknown	1,227 (12.7%)	25 (0.8%)	
Clinical stage			< 0.01
AIDS	2,712 (28.0%)	676 (20.8%)	
not AIDS	5,304 (54.7%)	2,062 (63.4%)	
Missing	1,678 (17.3%)	515 (15.8%)	
Baseline CD4 count, cells/µL	160 (58 – 266)	231 (95 – 349)	< 0.01
Missing	1,559 (16%)	275 (8%)	
Baseline viral load, $\log_{10}$ copies/mL	4.9 (4.4 – 5.4)	4.6 (3.7 – 5.2)	< 0.01
Initial regimen			< 0.01
NNRTI	7,735 (79.8%)	1,455 (44.8%)	
Boosted PI	1,411 (14.6%)	1,124 (34.6%)	
Other	548 (5.7%)	671 (20.6%)	
Nucleoside Backbone			< 0.01
ZDV + 3TC	6,308 (65.1%)	693 (21.3%)	
TDF + FTC or 3TC	1,561 (16.1%)	1,975 (60.7%)	
D4T + 3TC	919 (9.5%)	149 (4.6%)	
ABC + 3TC	468 (4.8%)	149 (4.6%)	
Other	438 (4.5%)	230 (7.1%)	
Initiation Year	2008 (2005–2010)	2007 (2004–2009)	< 0.01
Viral load measurements per person-year	1.84 (1.01 – 2.53)	3.27 (2.43 – 4.25)	< 0.01
Follow-up, years	3.7 (1.5 – 6.6)	2.7 (1.0 – 5.5)	< 0.01

*Continuous variables are reported as medians (interquartile range).

Figure 1: Cumulative incidence of death (with 95% CIs), Latino patients initiating ART in CCASAnet & NA-ACCORD

Latinos starting ART in Latin America had a higher incidence of mortality.

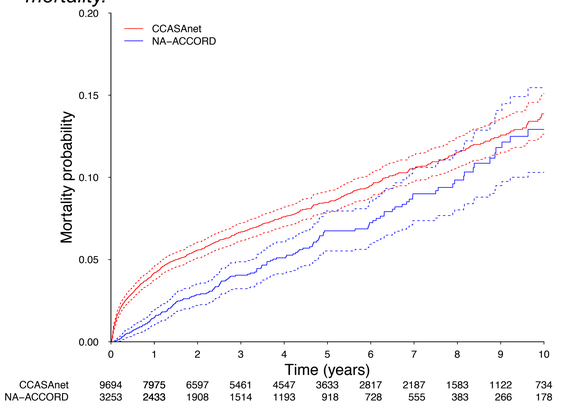

Figure 2: Cumulative incidence of VF (with 95% CIs), Latino patients initiating ART in CCASAnet & NA-ACCORD sites with ≥1 viral load after ART initiation

Patients initiating ART in CCASAnet had a lower cumulative incidence of VF than Latinos initiating ART in NA-ACCORD.

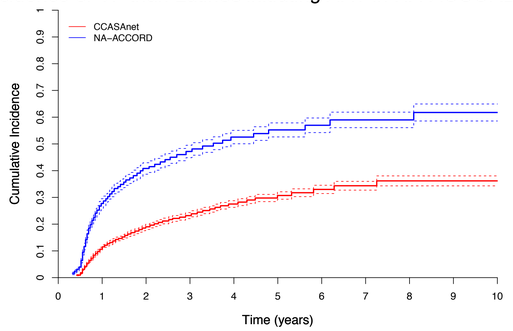

Table 2: Comparison of mortality (N=12,947) and VF(N=10,705), Latino patients initiating ART in CCASAnet and NA-ACCORD

Characteristic	Death: Hazard Ratio	VF: Hazard Ratio
Cohort		
NA-ACCORD	Ref.	Ref.
CCASAnet	1.46 (1.21 – 1.75)	0.51 (0.47 – 0.55)
Sex		
Female	Ref.	Ref.
Male	0.99 (0.85 – 1.15)	0.79 (0.72 – 0.85)
Age		
20	0.73 (0.53 – 1.01)	1.62 (1.41 – 1.87)
40	Ref.	Ref.
60	1.72 (1.41 – 2.11)	0.77 (0.66 – 0.91)
Clinical AIDS, baseline		
No	Ref.	Ref.
Yes	1.30 (1.11 – 1.53)	0.97 (0.88 – 1.06)
Nadir CD4, cells/µL		
50	2.42 (1.95 – 3.00)	1.11 (1.00 – 1.24)
100	1.79 (1.47 – 2.20)	1.09 (0.98 – 1.21)
200	1.12 (0.99 – 1.26)	1.00 (0.95 – 1.05)
350	Ref.	Ref.
Initiation Year		
2000	0.96 (0.74 – 1.24)	1.87 (1.64 – 2.14)
2006	Ref.	Ref.
2012	1.02 (0.73 – 1.43)	1.17 (0.91 – 1.49)
Initial Regimen		
NNRTI	Ref.	Ref.
Boosted PI	0.99 (0.83 – 1.18)	1.42 (1.30 – 1.56)
Other	1.29 (1.04 – 1.61)	1.62 (1.45 – 1.80)

Conclusions

- Latinos in CCASAnet were more immunosuppressed at ART start than those in NA-ACCORD
- Patients in CCASAnet had lower cumulative incidence of VF, though their risk of death was higher, probably owing to late ART initiation
- Early diagnosis, linkage to care and retention, and timely ART initiation therefore remain critical