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Abstract 573

Long term outcomes of ART in HIV-2 Infection in Senegal, West Africa.

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BACKGROUND

Long-term outcomes of antiretroviral therapy (ART) for HIV-2 infection have not been reported. Emerging data suggest that ART for HIV-2 infection may be complicated by high rates of clinical and virologic failure, poor immune reconstitution and multi-class ARV-resistance.

AIMS:

To assess long term outcomes of antiretroviral therapy in HIV-2 infected adults in Senegal

METHODS:

A cohort study of ART for HIV-2 infection in Dakar was initiated in 2005 and in Ziguinchor, Senegal in 2010. ART was provided by the Initiative Sénégalaise d'Accès aux Antirétroviraux. Patients were treated with 2 NRTIs and a protease inhibitor (PI), and Aluvia (lopinavir/ritonavir)-based ART became available in 2009. Patients were monitored every four months for clinical and immuno-virologic outcomes as well as adverse events. Time to virologic failure, genotypic ARV-resistance, CD4 count changes, adverse events, all cause mortality and loss to follow-up were analyzed.

RESULTS:

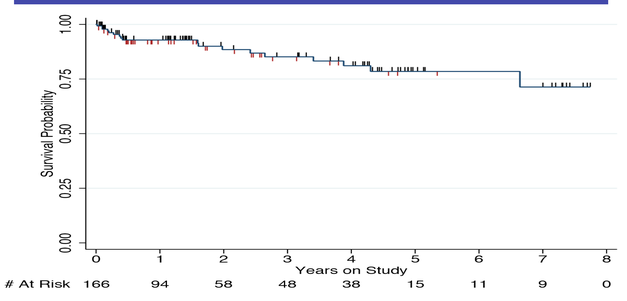
Demographics	N = 166*	
Female	113	(68%)
Age, median (range)	48.5	(21-71)
Year of HIV diagnosis, median (range)	2007	(1992-2013)
Baseline WHO stage		
1	10	(6%)
2	36	(23%)
3	94	(59%)
4	19	(12%)
Baseline BMI, median (IQR)	20.6	(17.9-24.4)

*12 subjects had equivocal dual serology for HIV-1/HIV-2 by Immunocomb II

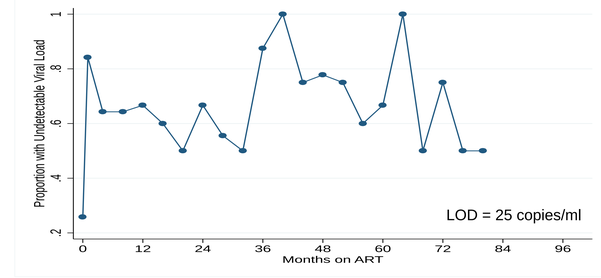
Baseline ART and Immuno-Virologic Characteristics of Cohort	N = 166	
Receiving ART at enrollment	108	(65%)
Baseline CD4 count, cells/mm^3, median (IQR)		
ART-naïve	197	(97-363)
ART-experienced	248.5	(129.5-426)
Baseline plasma viral load below limit of assay detection*		
ART-naïve	15	(33%)
ART-experienced	41	(59%)
Baseline plasma viral load, $\log_{10}$ copies per mL, median (IQR)#		
ART-naïve	2.80	(2.10-3.49)
ART-experienced	2.43	(1.85-3.28)
Initial ARV Regimen		
NNRTI + 2 NRTIs$	4	(3%)
2 NRTIs	11	(7%)
3 NRTIs	5	(3%)
Nelfinavir + 2 NRTIs	1	(1%)
Indinavir + 2 NRTIs	82	(54%)
Lopinavir/r + 2 NRTIs	50	(33%)

* Less than 25 copies/mL; # Among those with detectable viral loads; $ Initially misdiagnosed

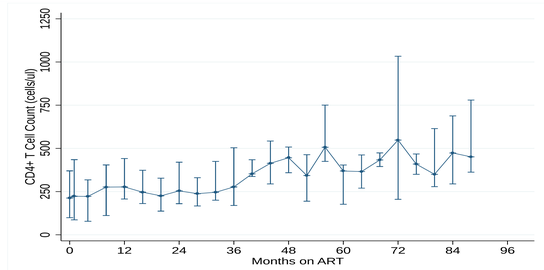
Kaplan- Meier Survival



Virologic Suppression



CD4 count Trajectory



Clinical & Adverse Events

Clinical Events on ART	First year	Subsequent years
Chronic diarrhea	16	20
Tuberculosis (pulmonary or extrapulmonary)	0	16
Cryptococcosis	1	0
Pneumocystis pneumonia	0	0
Toxoplasmosis	0	0
Cytomegalovirus	1	0
Kaposi's sarcoma	2*	2

* At baseline, on ART; n=108

Adverse Events on ART	
Neuropathy	22 (15.0%)
Lipodystrophy	4 (2.7%)
Anemia (hemoglobin < 7.5)	7 (4.8%)
Hepatic dysfunction (AST/ALT > 5 times ULN)	4 (2.7%)

n=147

HIV-2 ARV Resistance

NRTI Mutations	**Any:** K65R – 8; Q151M – 8; M184V – 33 (1 with M184I) **Multiple:** K65R+Q151M – 0; K65R+M184V -3; Q151M+M184V – 5; K65R+Q151M+M184VII - 3	
PI Mutations	**Any:** V47A – 7; I54M – 12; L90M - 4 **Multiple:** V47A+L90M – 1; I54M+L90M – 1; V47A+I54M+L90M - 1	
Median time to NRTI resistance	438 days	IQR 181-1092
Median time to PI resistance	571 days	IQR 236-1028
NRTI Resistance only	16/56	28.6%
Multiclass Resistance (NRTI + PI)	19/56	33.9%
No detectable Resistance (6/21ARV-naïve)	21/56	37.5%

Controlling for time on ART (which was independently associated with Time to resistance), none of the factors of interest (IDV vs LPV first, log baseline viral load, baseline CD4 count, and sex) were independently associated with time to resistance to either NRTI or PI. Likewise, in a multivariate model including all of those factors, there were no significant associations

PI mutations considered: V47A, I54M, L90M
NRTI mutations considered: K65R, Q151M, M184V
*598 genotypes representing 242 patient visits from 56 patients

CONCLUSIONS:

Long term outcomes of HIV-2–infected patients on ART in Senegal, West Africa are suboptimal with high rates of death, loss to follow up, AIDS-associated clinical events, immuno-virologic failure and ARV-resistance. Further studies comparing PI-based and integrase inhibitor-based regimens are needed, preferably in the setting of randomized clinical trials.

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