



ARV Therapies and Therapeutic Strategies  
REPORTING ON EACS 2015  
***Comprehensive Expert Review  
and Discussion of Key Presentations***

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## **Impact of Baseline Viral Load, Time to Viral Suppression, and Drug Class on Virologic Rebound**

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Abstract PS10/1

### **Design**

- **Da'AIDS Cohort**
  - Open-label observational cohort with 42,000 patients enrolled
  - Data collected from an electronic medical record for HIV-, HBV-, or HCV- infected subjects seeking care in French public hospitals
  - Demographics, clinical events, antiviral medication history and laboratory test are recorded on real-time bases in the database
- **SPEED Study: Inclusion criteria**
  - Age > 16 years
  - First line cART initiation between 1/1/2007 and 31/12/2013
  - cART consisting of 2 NRTIs + either EFV, a PI/r (restricted to ATV/r, DRV/r, or LPV/r, or and INSTI RAL, DTG or EVG/c)
- **Patients not achieving viral suppression on initial cART excluded from the analysis**

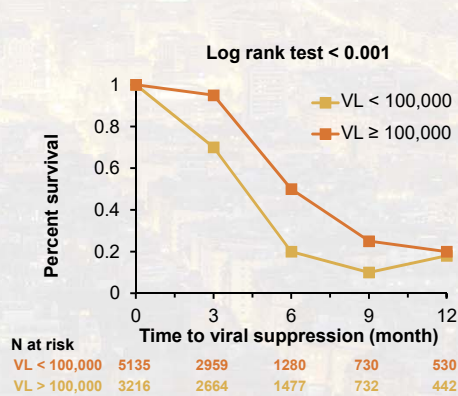
## Baseline Characteristics: Demographic and Immunovirologic Data

Variable		Patients with no viral suppression N=759 n(%)	Patients with viral suppression N=7592 n(%)	P value
Age (years)	Median (IQR)	38 (30,47)	39 (31,47)	0.257
Male	N (%)	552 (72.7)	5378 (70.8)	0.293
Exposure, n (%)	Heterosexual	365 (48.1)	3487 (45.9)	<0.001
	Men having sex with men (MSM)	253 (33.3)	3268 (43)	
	Other	141 (18.6)	837 (11)	
Hepatitis co-infection	N (%)	110 (14.5)	959 (12.6)	0.16
AIDS	N (%)	179 (23.6)	1180 (15.5)	<0.001
Baseline CD4/mm3	Median (IQR)	253 (102,395)	308 (190,423)	<0.001
HIV RNA, log10 c/ml	Median (IQR)	5 (4.3,5.5)	4.8 (4.2,5.3)	<0.001
HIV RNA, copies/ml	<10,000	148 (19.5)	1556 (20.5)	<0.001
	10,000-100,000	242 (31.9)	3189 (42)	
	100,000-500,000	241 (31.8)	2036 (26.8)	
	> 500,000	128 (16.9)	811 (10.7)	

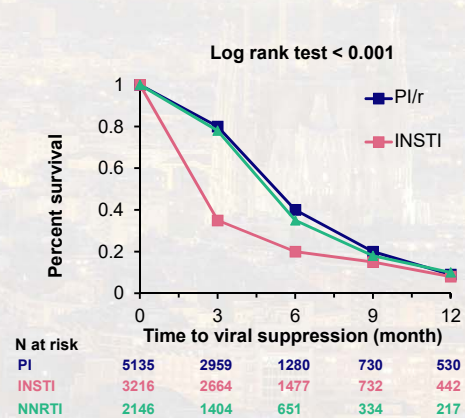
Allavena C, et al; 15th EACS, Barcelona, Spain, October 21-24, 2015; Abst. PS10/1.

## Time to Observed Viral Suppression According to Baseline HIV RNA and to Regimen Class

Time to viral suppression according to baseline VL (c/ml)



Time to viral suppression according to regimen class



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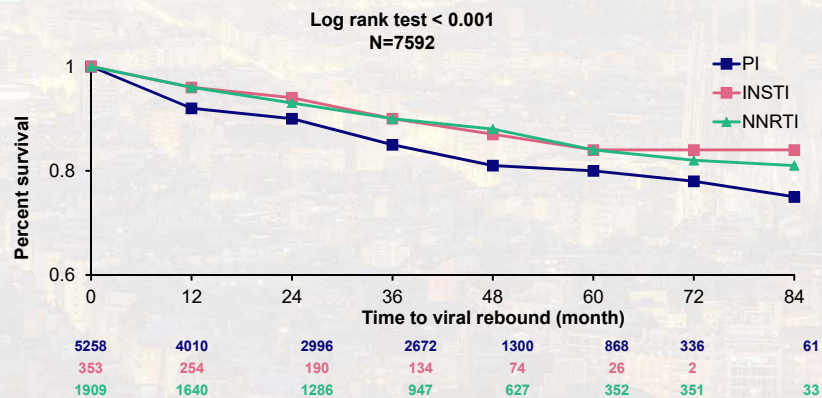
## Risk of Viral Suppression (Multivariate Cox Model)

Variable	Reference	All patients N=8351		
		HR	95% CI	P
Age (years)	< 40 years	1.01	0.95-1.05	0.999
Male	Female	0.89	0.83-0.94	<0.001
Exposure risk	Heterosexual	1.19	1.12-1.26	<0.001
MSM		0.96	0.89-1.04	0.334
Other/unknown				
HBV or HCV co-infection	Absense	0.98	0.91-1.05	0.522
CDC stage B at baseline	Stage A	0.95	0.88-1.03	0.242
CDC stage C at baseline	Stage A	0.81	0.76-0.87	<0.001
NNRTI	PI/r	1.12	1.06-1.18	<0.001
INSTI		1.92	1.72-2.14	<0.001
NRTI backbone: ABC/3TC	TDF/FTC	1.03	0.97-1.10	0.307
NRTI backbone: ZDV/3TC		0.94	0.85-1.03	0.189
Other NRTI backbone		0.9	0.75-1.08	0.267
CD4 count $\geq$ 500 cells/mm <sup>3</sup>	< 500 cells/mm <sup>3</sup>	0.99	0.93-1.06	0.726
HIV RNA $\geq$ 5 log <sub>10</sub> copies/mL	< 5 log <sub>10</sub> copies/mL	0.67	0.64-0.71	<0.001

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## Risk of Virologic Rebound According to Regimen Class

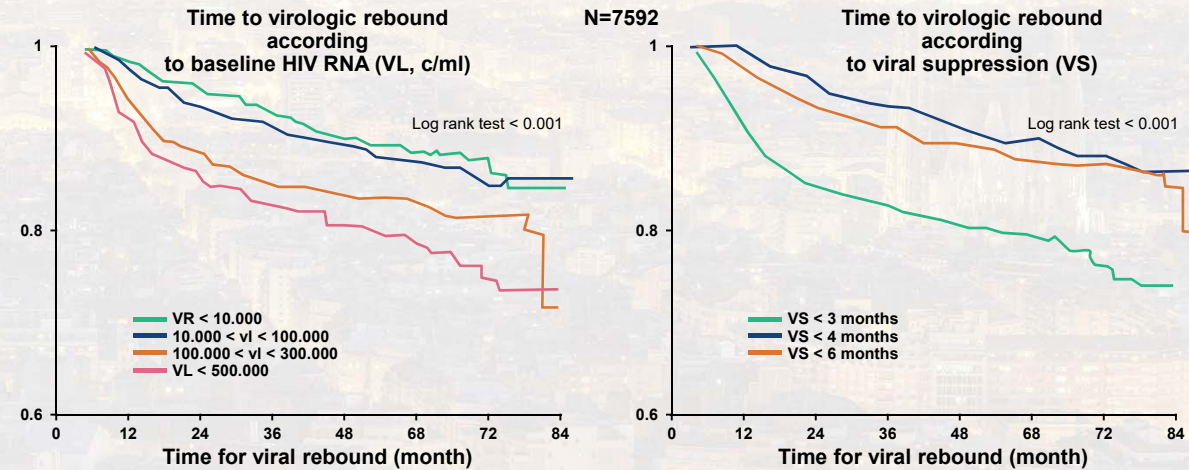
990 (13.0% patients experienced virologic rebound (HIV RNA > 50c/ml x2)



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## Risk of Virologic Rebound According to Baseline HIV RNA and Time to Viral Suppression

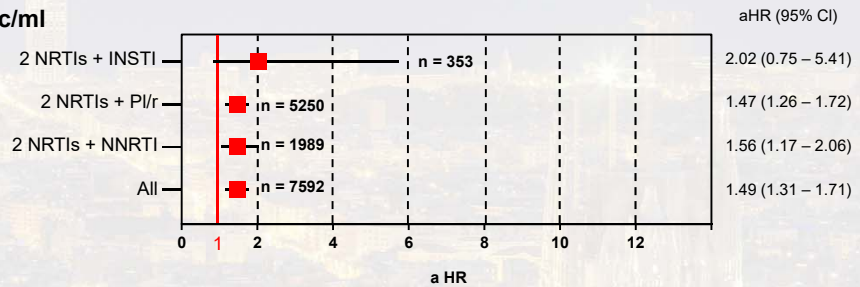
- 990 (13.0%) patients experienced virologic rebound (HIV RNA > 50 c/ml x2)
- Median [IQR] follow-up time from cART initiation: 41.2 [23.8 to 61.5] months



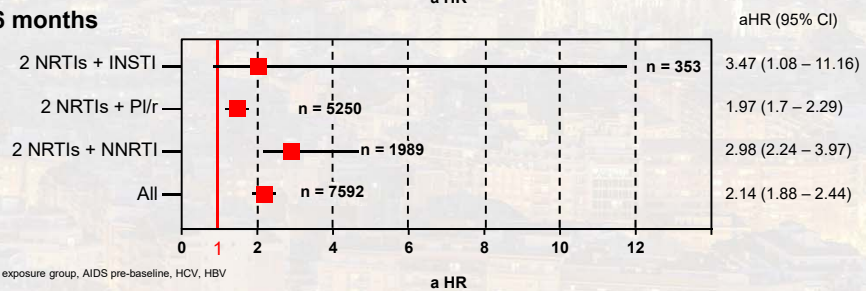
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## Risk of Virologic Rebound: Adjusted Hazard Ratio

### Baseline HIV RNA > 100,000 c/ml



### Time to viral suppression > 6 months



Adjusted for Regimen class, NRTI backbone, Baseline CD4, age, gender, exposure group, AIDS pre-baseline, HCV, HBV

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