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O331 Patterns of viral suppression on cART as predictors of uncontrolled viremia after starting a new antiretroviral after 1 January 2003

J Reekie*[1], A Mocroft[1], B Ledergerber[2], M Beniowski[3], B Clotet[4], J van Lunzen[5], A Chiesi[6], C Pradier[7], L Machala[8] and JD Lundgren[9]

Address: [1]Royal Free & University College Medical School, London, UK, [2]University Hospital, Zurich, Switzerland, [3]Osrodek Diagnostyki i Terapii AIDS, Chorzow, Poland, [4]Hospital Germans Trias i Pujol, Badalona, Spain, [5]University Medical Center Hamburg-Eppendorf, Infectious Diseases Unit, Hamburg, Germany, [6]Istituto Superiore di Sanità, Rome, Italy, [7]Hôpital de l'Archet, Nice, France, [8]Faculty Hospital Bulovka, Prague, Czech Republic and [9]Copenhagen HIV Programme, Panum Institute, Copenhagen, Denmark

* Corresponding author

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Purpose of the study

We aimed to investigate which measures of prior viral suppression predicted uncontrolled viremia in patients on cART who started >1 antiretrovirals (ARV) after 1/1/2003.

Methods

1,807 EuroSIDA patients on cART that started any ARV after January 1, 2003 were included. Baseline was defined as the date of starting a new ARV after January 1, 2003. Poisson regression, adjusted for appropriate confounding variables, was used to identify measures of viral suppression before baseline which predicted risk of uncontrolled viremia (viral load [VL] >500 copies/ml at least 6 months after baseline) after starting a new ARV. Measures of viral suppression before baseline were number of rebounds (VL >500 copies/ml), size of rebounds, time since last rebound, highest ever rebound, and the total time suppressed and percentage of time suppressed while on cART prior to baseline.

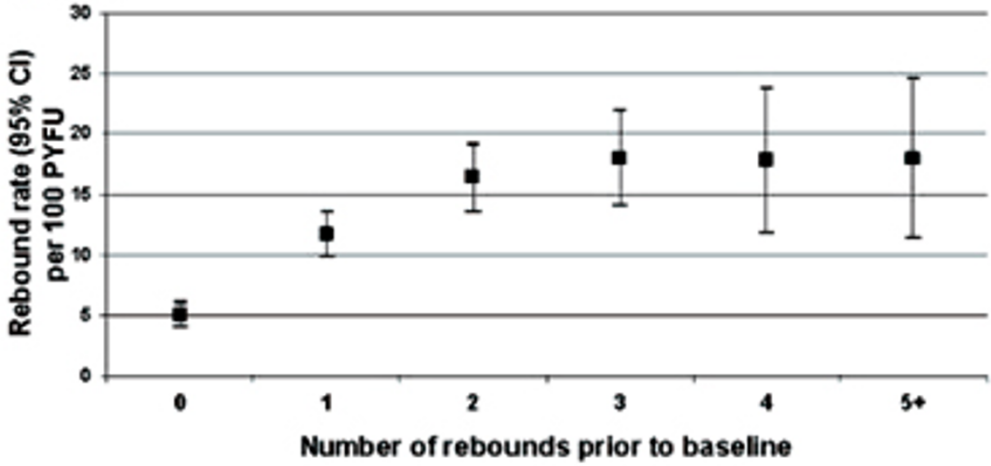
Summary of results

At baseline patients had been on cART a median of 6.2 years (IQR 4.7–7.3), and had been exposed to a median of seven ARVs (IQR 5–9). The most common reasons for starting a new ARV was patient/physician choice (32%) and toxicities (31%); 66% were suppressed at baseline. 530 patients experienced uncontrolled viremia (400 whilst on cART) after starting a new ARV. The incidence of uncontrolled viremia was 13.7/100 PYFU (95% CI:12.5–14.9). Figure 1 show the crude incidence of uncontrolled viremia after stratification by the number of rebounds and the proportion of time fully suppressed while on cART prior to baseline. In adjusted models, the rate of uncontrolled viremia was lower in those with fewer viral rebounds before baseline (IRR per additional prior rebound = 1.12 (95% CI: 1.04–1.20), and with increasing time fully suppressed on cART prior to baseline (IRR per additional 10% suppressed = 0.86 (0.83–0.90). Higher rebound values and less time since last rebound also increased the risk of uncontrolled viremia but were not significant after adjustment for time suppressed and number of previous rebounds. The results were consistent between patients suppressed and unsuppressed at baseline.

Conclusion

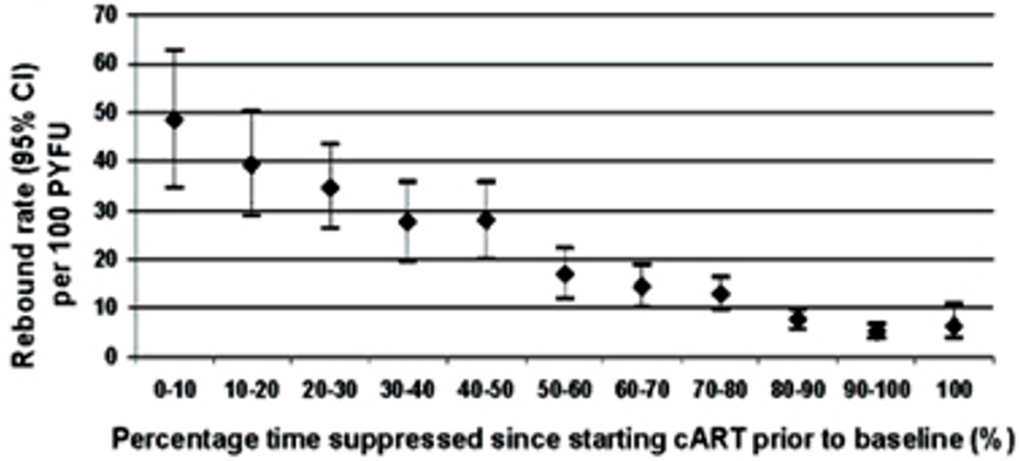
The number of previous rebounds and the percentage of time suppressed whilst on cART were both strong predictors of future uncontrolled viremia after starting a new ARV. Hence, the history of patterns of viral response to cART regimens should be an integrated component in

Figure 1a



No of rebounds prior to baseline	0	1	2	3	4	5+
No rebounded after baseline	91	161	135	81	34	28
PYFU	1814	1373	825	451	191	156

Figure 1b



% time suppressed prior to baseline	<10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100
No rebounded after baseline	47	53	62	44	47	42	43	62	56	59	15
PYFU	96	134	178	159	169	247	298	479	735	1141	233

Figure 1

deciding monitoring strategies and adherence counseling for patients whenever a change in cART is made.