

The effect of Rifampicin on clinical characteristics in patients treated with Efavirenz containing HAART.

Sabina Mugusi MD, PhD student

Karolinska Institutet, Sweden

Muhimbili National Hospital, Tanzania



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Background

- Tanzania has approximately 186,000 patients on ARV. (MDH Sept 2008)
- The National TB and Leprosy Programme (NTLP) reports about 67,000 new cases of Tuberculosis annually.
- Co-treatment of HIV and TB is advocated to improve outcomes in both, however there are challenges.

Background cont..

- TB treatment follows guidelines of the NTLP using Rifampicin (RIF), Isoniazid, Ethambutol and Pyrazinamide. (RHZE)
- HIV treatment is based on National guidelines set by the National AIDS Control Program (NACP) using 2 NRTI's and 1 NNRTI

Background cont...

- RIF induces CYP3A and CYP2B6 enzymes decreasing plasma Efavirenz (EFV) concentrations by 13-25%
- Pharmacokinetics of EFV depend on the genetic make up of individuals
- Higher EFV plasma level is associated with Neuropsychiatric manifestations
- Co-administration of EFV and RIF may be associated with some adverse effects or alter treatment outcome

Background cont..

Knowledge of the clinical characteristics of patients co-treated with EFV-containing ART and RIF-containing anti-TB in the Tanzanian setting is important for establishing the optimal dose of EFV as well as in the management of adverse effects.

Objective

- To determine the clinical characteristics and adverse effects profile of concomitant use of RIF and EFV by antiretroviral-naïve patients in Tanzania.

Methods

- A prospective cohort study conducted in HIV and HIV/TB clinics in Dar es Salaam
 - Adult HIV infected patients naïve to ART were initiated on an EFV based HAART.
 - HIV infected and ART naïve patients with TB were initiated on anti-TB therapy followed by an EFV-based HAART 4 weeks later.
- Patients are followed up for a period of 52 weeks whereby clinical and laboratory assessments are done.

Results

- 255 HIV infected patients without TB were recruited during the study period
 - 210 (82.4%) were put on AZT/3TC/EFV
 - 45 (17.6%) were on d4T/3TC/EFV
- 231 HIV infected patients with TB were recruited
 - 119 (51.5%) were on d4T/3TC/EFV
 - 100 (43.3%) were on AZT/3TC/EFV

Table 1- Social demographic characteristics of HIV infected patients without TB – N=255

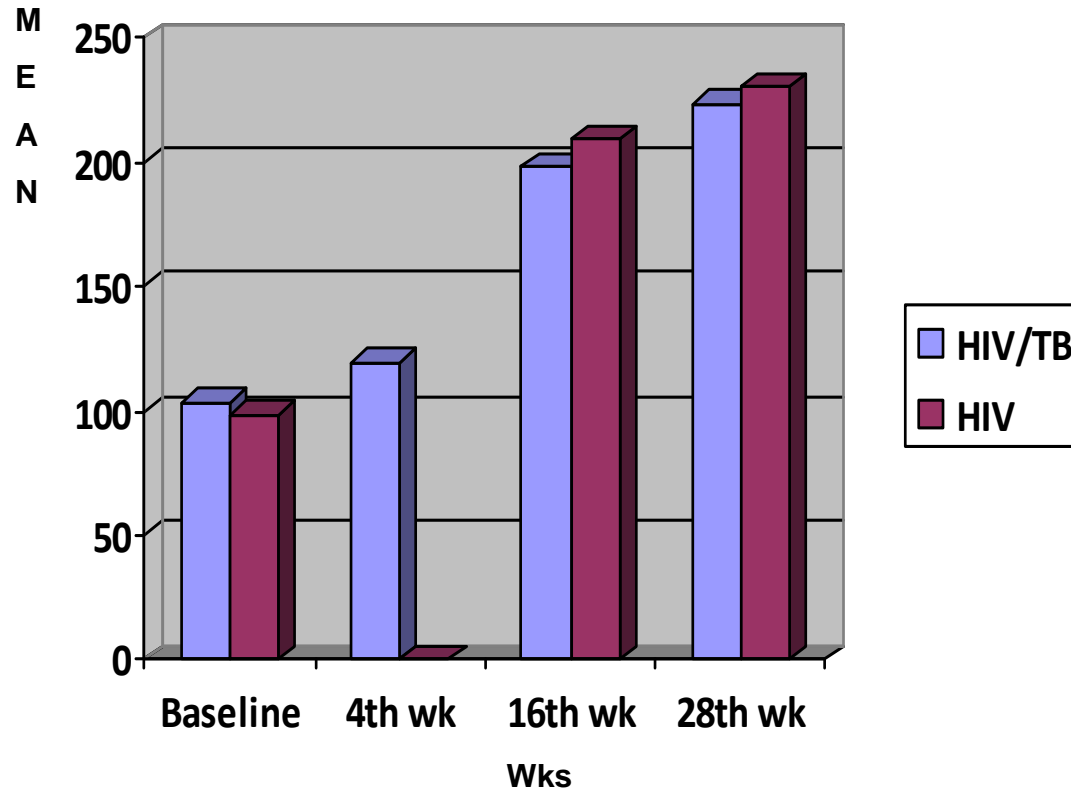
		Females, n= 166 (65.1%)	Males, n=89 (34.9%)	P-value
Age		37.2 (8.04)	42.7 (9.67)	<0.001
Marital Status	Single	61 (37%)	20 (24.7%)	<0.001
	Married	52 (31.5%)	53 (50.5%)	
	Widowed	21 (12.7%)	5 (19.2%)	
	Divorced	31 (18.8%)	11 (12.4%)	
Education Status	Illiterate	6 (3.7%)	1 (1.1%)	0.475
	Able to read & write	1 (0.6%)	1 (1.1%)	
	Primary	108 (66.3%)	64 (71.9%)	
	Secondary	45 (27.6%)	23 (25.8%)	
	Tertiary	3 (1.8%)	0	
Mean BMI (kg/m2)		22.6 (4.85)	21.0 (3.26)	0.009
Mean absolute CD4 count (cells/μl)		98.0	67.5	0.059
Viral Load (RNA copies/ml)		166,540	282,634	0.841

Table 2- Social demographic characteristics of HIV patients with TB - N=231

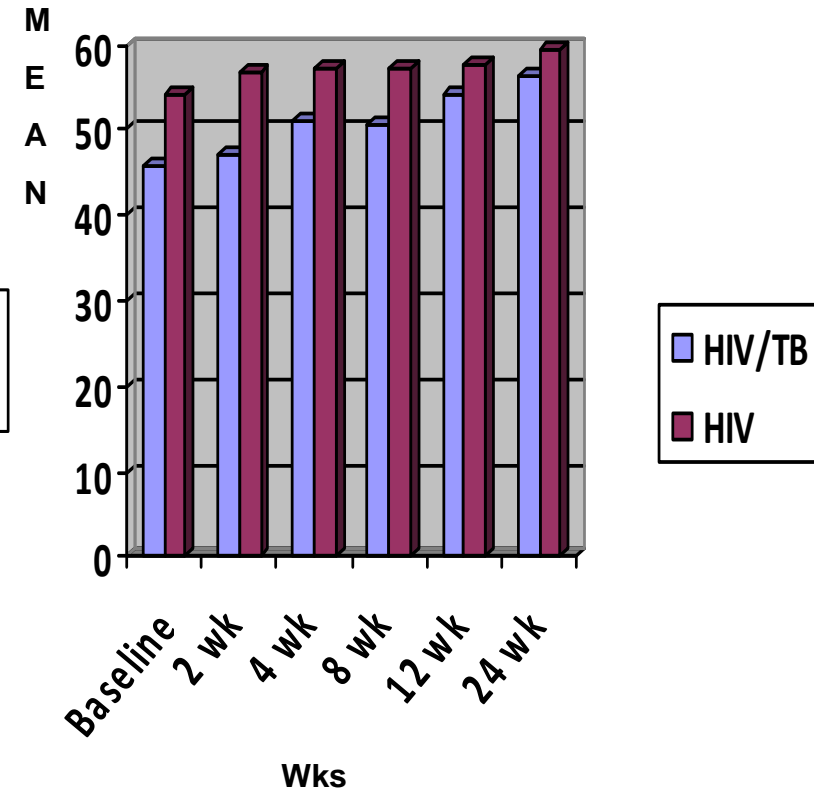
		Females, n=113 (48.9%)	Males, n=118 (51.1%)	P-value
Age		38.4 (10.0)	41.8 (9.19)	0.008
Marital Status	Single	32 (28.3%)	30 (25.4%)	0.452
	Married	51 (44.7%)	63 (53.4%)	
	Widowed	14 (12.4%)	7 (5.9%)	
	Divorced	16 (14.2%)	18 (15.3%)	
Education	Illiterate	6 (5.3%)	4 (3.3%)	0.548
	Able to read & write	2 (1.8%)	2 (1.7%)	
	Primary	88 (77.9%)	92 (78%)	
	Secondary	17 (15.0%)	18 (15.3%)	
	Tertiary	0	2 (0.9%)	
Mean BMI (kg/m²)		19.51 (3.39)	19.46 (3.12)	0.915
Mean absolute CD4 count (cells/μl)		77.0	103.5	0.195
Viral Load (RNA copies/ml)		542,480	185,050	0.123

Mean absolute CD4 count and Weight (in kg) over time

• Mean CD4

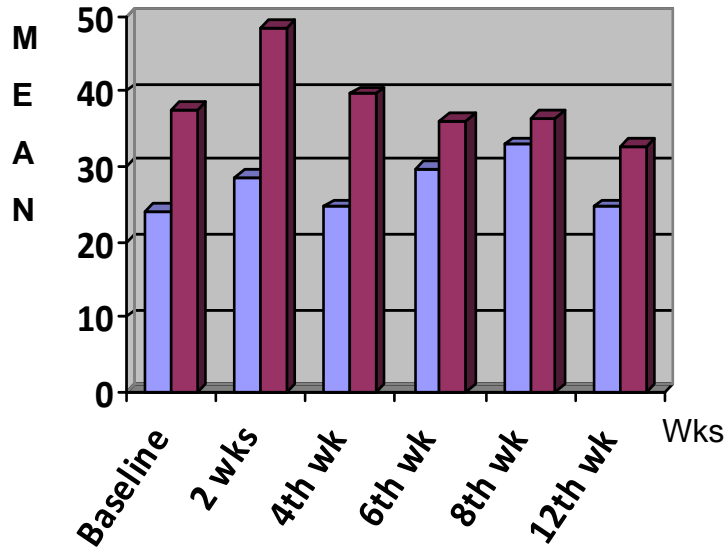


Mean Weight

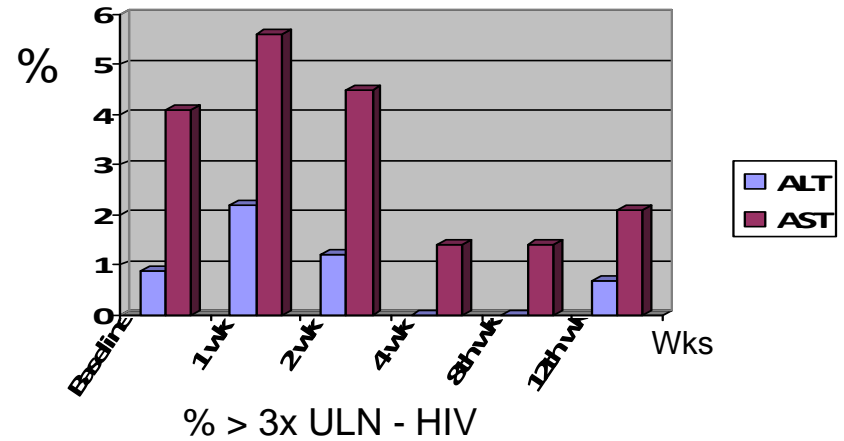
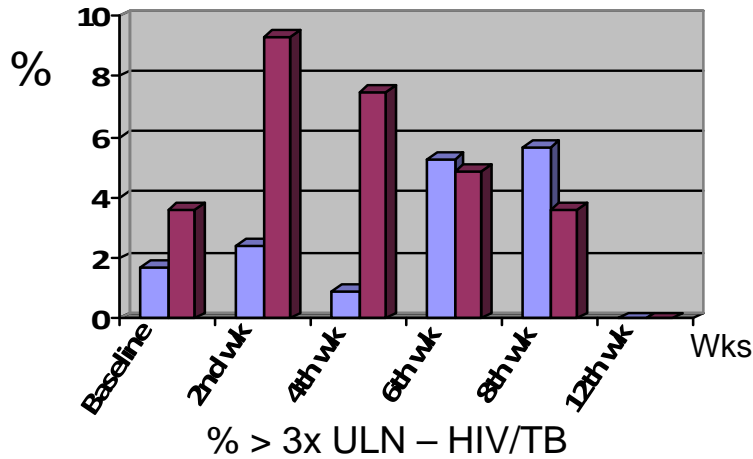
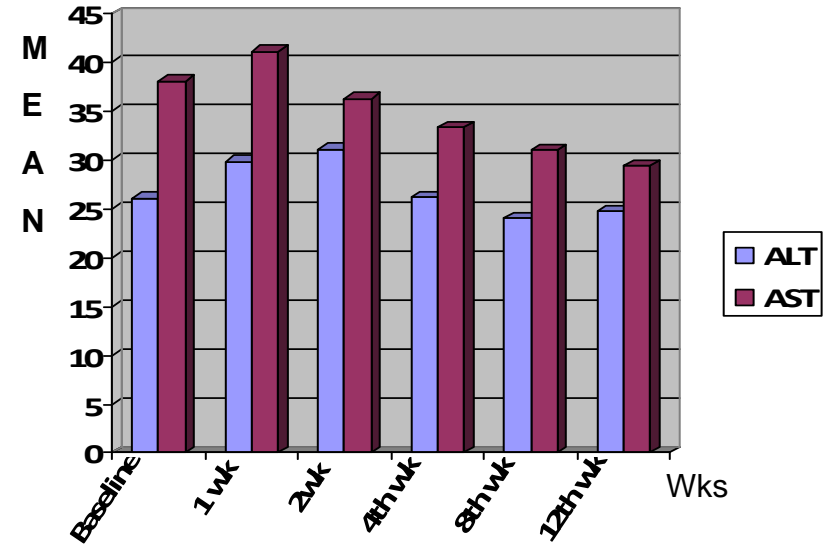


Mean serum AST and ALT Liver Enzyme levels

- HIV/TB patients

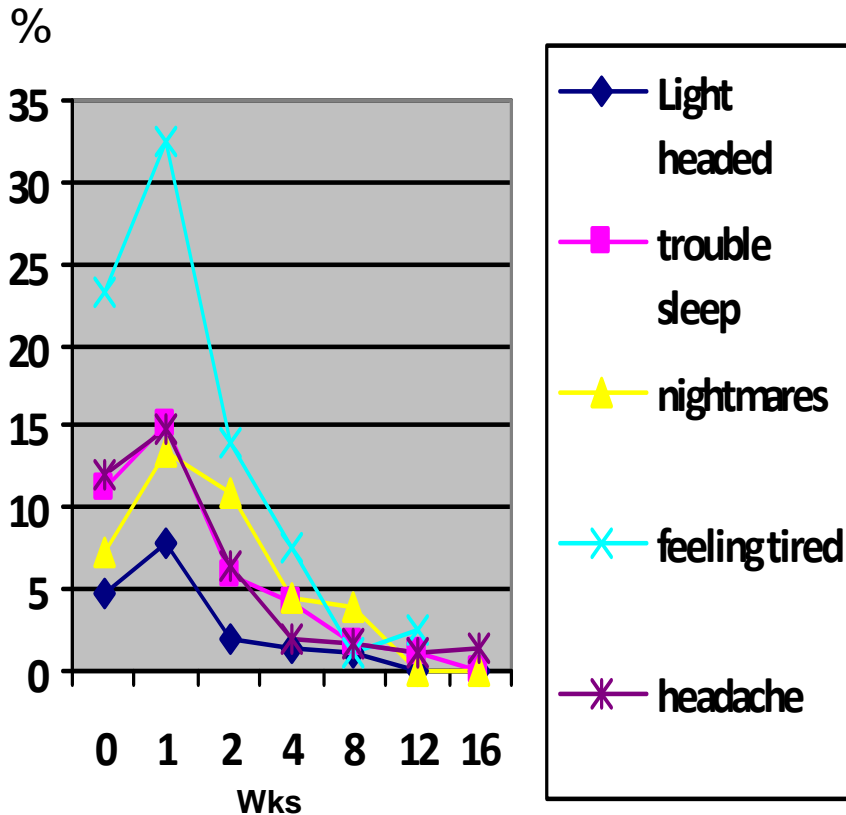


HIV patients

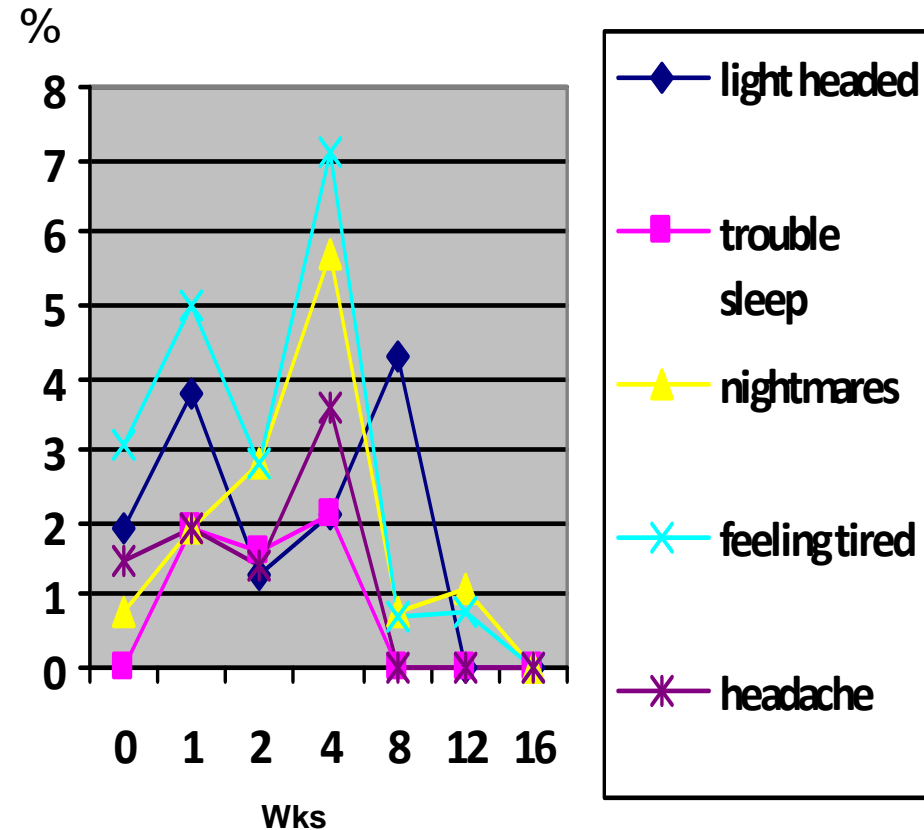


Neuropsychiatric Manifestations of EFV

HIV



HIV/TB



Conclusion

- Less neuropsychiatric manifestations were noted in patients using RIF plus EFV.
- Liver Enzyme (AST & ALT) abnormalities were more frequent in pts using RIF and EFV.
- Changes in absolute CD4 counts at 3 and 6 months were similar in the two groups.

Acknowledgments

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 - Karolinska Institutet – Sweden
 - MUHAS/MNH – Tanzania
 - University of Heidelberg – Germany
 - University of Addis Ababa – Ethiopia
 - AiBST - Zimbabwe



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Thank You

