Neurological Manifestations of Efavirenz Toxicity:

a three-year cross-sectional study - 41 patients from Pretoria

L Munsami, C Schutte, M De Villiers, J Hiesgen

Department of Neurology, University of Pretoria

Background

- Efavirenz highly effective antiretroviral drug
- Backbone of HIV treatment until recently
- Well-known neuro-psychiatric side effects
- Recently described late onset toxicity
- Limited data available

Aim

- Describe clinical picture of patients with efavirenz toxicity
- Investigate co-morbidities, risk factors
- Report outcome

Methods

- Descriptive cross-sectional study
- Three year period: 1.1.2018-31.12.2020
- Kalafong Provincial Tertiary Hospital
- All patients with efavirenz toxicity

Results: HIV-related data

Variable	n=41	%
Sex		
female	36	87.8
male	5	12.2
Mean age, years (range)	43.6 (15-69)	-
female (mean)	44.75 (15-69)	
male (mean)	35.4 (17-56)	
HIV viral load (copies/ml)		
Not detectable	35	85.4
>1000	5	12.2
Unknown	1	2.4
Infection		
Tuberculosis	8	19.5
Syphilis	2	4.8
Others	2	4.8
Medication		
TB medication	9	22
INH prophylaxis	8	19.5
Sodium valproate	5	12.2

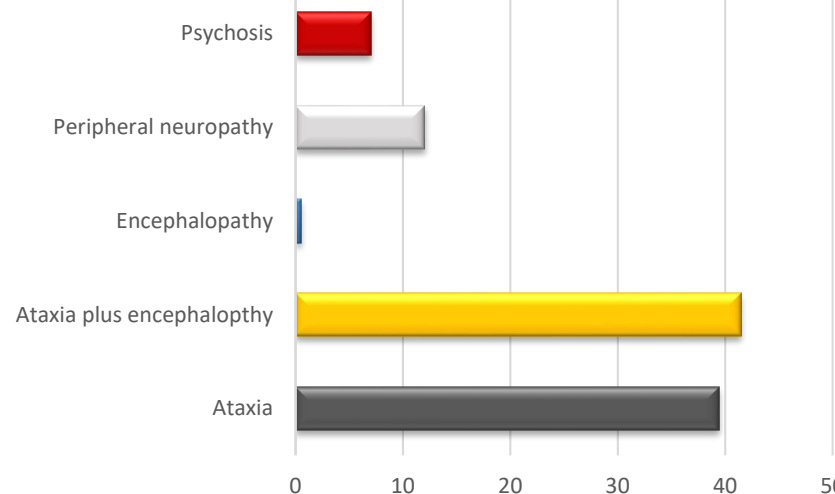Duration of HIV infection/antiretroviral therapy (ART)

CD 4 count/mm3 (%)
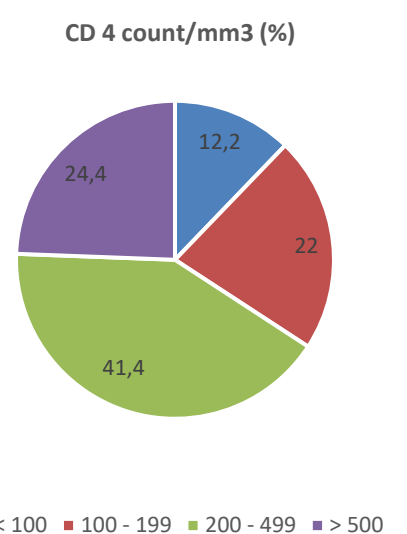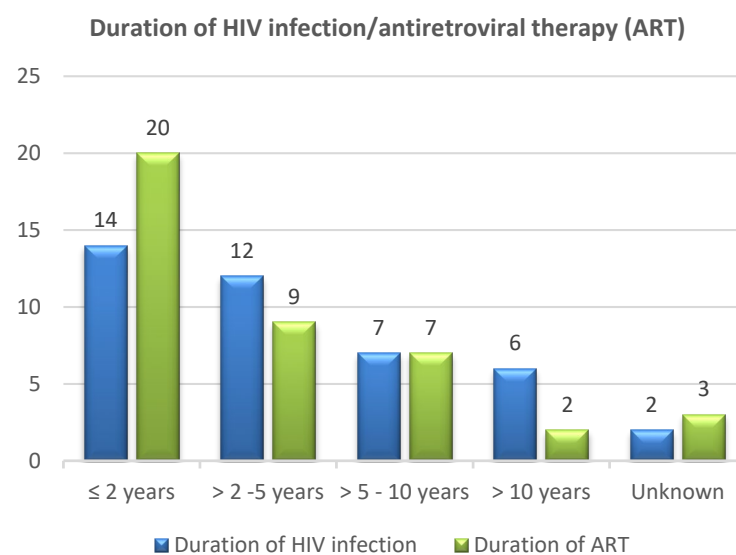
Results: Efavirenz toxicity data

Efavirenz levels µg/ml, n=41
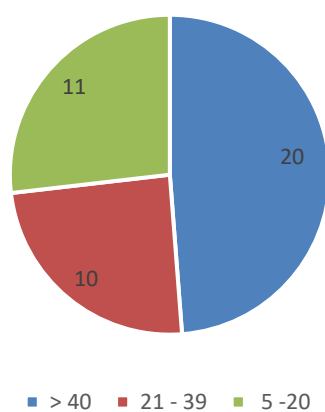
Neurological signs (%)

Efavirenz levels (n, SD)	Mean (µg/ml)	P value
Entire patient group	44.6 (41, 27.5)	-
Classical presentation	48.97 (36, 26.6)	
Psychosis/no typical symptoms	13.2 (5, 9.7)	0.0025
TB/INH treatment (Classical presentation)	52.18 (16,)	

Outcome at discharge
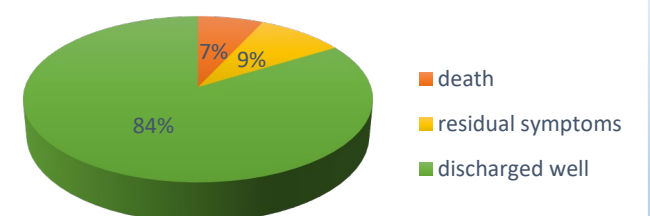
Conclusion

- Late onset efavirenz toxicity relatively common
- Largest single-centre cross sectional study thus far
- Ataxia and encephalopathy prominent features
- Psychosis also seen
- Prognosis good if recognized and drug withdrawn
- Mortality 7% concerning
- Risk factors: female, co-medication, especially TB treatment
- New ART guidelines replace efavirenz but many still on old regime
- Awareness of condition vital

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

References
1. Variava E, Sigauke FR, Norman J, Rakgokong M, Muchichwa P, Mochan A, et al. Brief Report: Late Efavirenz-Induced Ataxia and Encephalopathy: A Case Series. J Acquir Immune Defic Syndr. 2017; 75(5):577–579.
2. Cross HM, Chetty S, Asukile MT, Hussey HS, Lee Pan EB, Tucker LM. A proposed management algorithm for late onset efavirenz neurotoxicity. S Afr Med J. 2018 Mar 28; 108(4):271-274.