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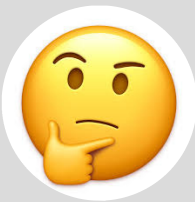


When Plasma HIV Viral Load Does Not Answer the Question...

“Is the Patient Failing on ART?”

Wednesday 16th October 2019

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Presentation Outline

- Introduction
- Case series
- Key message
- Recommendations

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Introduction

- Treatment success for patients on ART is measured by viral suppression (< 50 cp/ml)
- A patient with a *suppressed* viral load (VL) is less likely to have OIs, has improved quality of life, reduced transmission risk
- WHO defines treatment failure as VL of > 1000 cp/ml
- Low level viraemia (LLV): VL 200 – 1000 cp/ml
- Compartmentalisation & sanctuary sites
- The CNS is a sanctuary site where HIV may escape ART control

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Case Series

- 9 patients on 2nd line PI-based ART with LLV who developed neurocognitive impairment (NCI)
- Hypothesis: clinical presentation may be due to viral escape in the CSF
- Sex: 5 F, 4 M
- Median age: 50.8 years (range 43 - 60 years)
- Mean duration on ART: 11.8 years (range 4.6 – 15.7)
- CD4 count: 80 – 864
- Plasma VL: 78 – 1014
- CSF VL: 1761 – 70 302

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Results

Patient	M/F	Age	CD4	Duration on ART	Duration ATV/r (wks)	Plasma VL	CSF VL
BM	F	57	440	221	102	312	5 266
MN	F	50	864	754	189	331	11 376
MG	F	45	162	175	97	180	16 133
AZ	M	48	512	666	200	166	12 069
CF	M	43	227	597	201	646	70 302
MC	F	60	80	664	53	885	13 774
CS	M	49	198	659	103	1014	13 668
AdZ	M	50	448	733	255	78	1 761
LM	F	56	282	473	241	295	12 270

Outcomes

- The patients were switched to DTG/DRV/r, and an optimised 2 NRTI backbone (8 AZT/3TC, 1 TDF/3TC)
- In all 9 patients, the NCI symptoms & signs resolved within 4 weeks of regimen change

Key Message

Patients with plasma LLV may have viral escape in the CSF

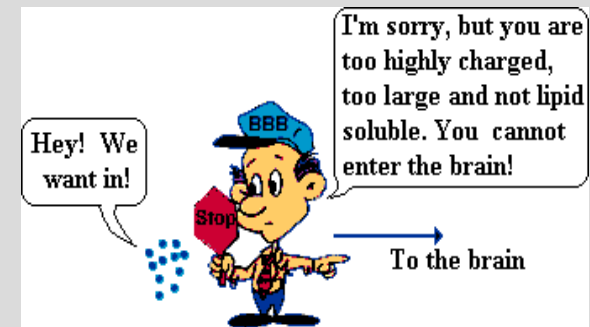


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Recommendations

- Any patient on ART with an unsuppressed VL presenting with NCI should have a CSF VL
- If there is viral escape in the CSF, the ART regimen must be optimised to include medication with a high CSF penetration effectiveness (CPE) score

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CNS Penetration Effectiveness Score

Drug Class	CPE Score			
	1	2	3	4
NRTIs	Tenofovir	Lamivudine Stavudine	Emtracitabine Abacavir	Zidovudine
NNRTIs		Etravirine	Efavirenz Ralpivirine Delavirdine	Nevirapine
PIs	Saquinavir/r Nelfinavir/r Tipranavir/r	Atazanavir/r	Darunavir/r Indinavir/r Fosamprenavir/r	
INSTIs		Elvitegravir/c	Raltegravir	Dolutegravir



Thank you