Results. Six patients received DAAs alone as first-line management of their NHL. Most patients 5/6 (83%) did respond to such treatment avoiding or delaying the use of chemotherapy (Table).

Conclusion. As described with IFN-containing therapy, the oncologic outcome of HCV-infected patients with indolent NHL could also improve by using only DAAs.

Table: Characteristics of six patients with indolent NHL treated with DAAs.

	Number of patients (%) N = 6
Median age (IQR), years	60 (55- 65)
Gender, male	4 (67)
NHL subtype	
Marginal zone lymphoma[a]	6 (100)
HCV genotype	
1	3 (50)
2	3 (50)
rs12979860 genotype[b]	
CC	2 (33)
CT	3 (50)
TT	1 (17)
Cirrhosis	0
History of HCV treatment	0
DAA therapy	
Sofosbuvir + ribavirin	2 (33)
Sofosbuvir + simeprevir	1 (17)
Sofosbuvir + daclatasvir	2 (33)
Sofosbuvir + ledipasvir	1 (17)
DAA treatment duration of 12 weeks	6 (100)
NHL response after SVR	
Complete response	2 (33)
Partial response	1 (17)
Stable disease	2 (33)
Persistent disease	1 (17)
Chemotherapy needed after SVR	3 (50)

Abbreviations: IQR, interquartile range; NHL, Non-Hodgkin lymphoma; HCV, hepatitis C virus; DAA, direct acting agents; SVR, sustained virologic response.
[a]Nodal (n = 1), Extranodal (n = 2) splenic (n = 1), and mucosa-associated lymphoid tissue lymphomas (n = 2).
[b]Formerly known as interleukin 28b genotype.

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547. Incidence of Symptomatic CSF Viral Escape in HIV-infected Adults Receiving Atazanavir/Ritonavir (ATV/r)-Containing ART: A Tertiary Care Cohort in Western India

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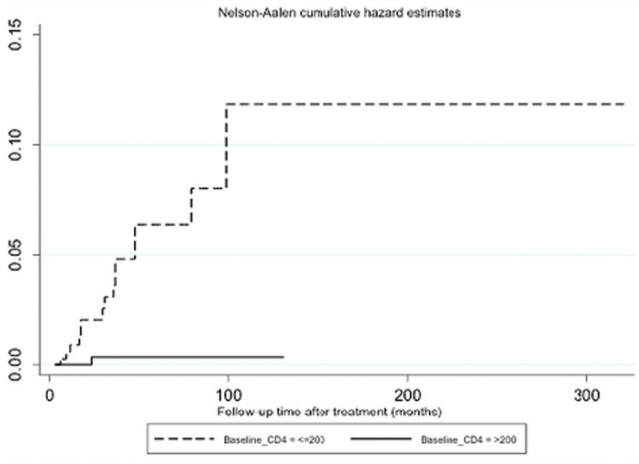
Background. CSF viral escape (CSF-VE) in patients receiving effective antiretroviral treatment (ART) has been increasingly described in the last decade. This single-center study attempts to quantify the incidence of symptomatic CSF escape in patients receiving ATV/r containing regimen. Primary objective was to assess the incidence of symptomatic CSF-VE in patients receiving ATV/r-containing ART in clinical practice. Secondary objectives were to describe clinical presentation, risk factors and clinical response after ART was changed.

Methods. We performed a retrospective analysis of adults receiving ATV/r-containing ART who were diagnosed with symptomatic CSF-VE from August 2013 to January 2017 at a tertiary care center. Patients with active CNS infections were excluded. Incidence rates were calculated by dividing the number of patients who experienced CSF-VE by the number of person-months at risk and summarized as per 10000 (ten thousand) person–months at risk. Difference in incidence of CSF-VE as per the ART regimen was assessed using Fisher exact test.

Results. 933 HIV-1 adults with a total of 36,068 person-months of follow-up were included. Of 26 patients diagnosed with CSF-VE, 16 (61.5%) received ATV/r-containing regimens. Impaired memory (56.3%), dizziness (50%) and tremors (43.8%) were the three most common presenting symptoms. Incidence rate of symptomatic CSF-VE was 4.4 per 10,000 person-months (95% CI 2.7 to 7.2). Incidence of CSF-VE was not associated with age, sex, weight, or ART status (naive vs. first-line failure) of the patient. The incidence of CSF-VE was 9.5 per 10,000 person-months (95% CI 5.7 to 15.7) when the nadir CD4 count was ^{2}200 compared with 0.49 (95% CI 0.07 to 3.5) with a nadir CD4 count >200 (IRR 19.1 (95% CI 2.93 to 802.8), $P < 0.0001$) (Figure 1). None receiving AZT/3TC developed CSF-VE, while 16 out of 686 receiving TDF/FTC developed CSF-VE ($P = 0.001$). ART was optimized in all patients with a median CPE score of 10.5 (7–13). All patients had rapid neurological improvement after change in ART.

Conclusion. Symptomatic CSF-VE with ATV/r containing regimen was a rare but clinically significant condition in this single-center study. Nadir CD4 count^{2} 200 was associated with substantially increased risk of symptomatic CSF-VE, further strengthening efforts to diagnose and treat patients early in disease.

Figure 1:



Disclosures. **All authors:** No reported disclosures.

548. Stroke Outcomes Among HIV-infected Patients in a Large, Urban, Tertiary Hospital in the USA, 1999–2016

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Background. HIV infection is an independent risk factor for stroke. However, patient-level data on stroke outcomes among HIV-infected patients are limited. We compared stroke outcomes between HIV-infected and -uninfected patients in a large tertiary hospital.

Methods. We used data from the Stroke Management and Rehabilitation Team, a patient-level database of all stroke admissions among adult patients at Barnes-Jewish Hospital, St. Louis, Missouri. All patients hospitalized with a first stroke episode from 1999 to 2016 were included. Variables between groups were compared using independent samples t-test or the Wilcoxon rank-sum test for continuous variables and the chi-square or Fisher's exact test for categorical variables when applicable. Spearman's test was used for correlation analyses.

Results. Of 20,268 patients, 81 were HIV-infected. The median CD4+ count was 148 cells/μL and 38% had HIV viral load < 200 copies/mL at stroke presentation. Compared with HIV-uninfected patients, HIV-infected patients were significantly younger (49 vs. 65 years, $P = 0.010$) and had higher rates of smoking, alcohol and illicit drug use (table). Comorbid conditions, stroke severity, length of hospital stay, and rates of inpatient mortality and hospital complications between the two groups were similar. The proportion of stroke admissions among HIV-infected patients peaked in 2010–2011 (figure). From 1999 to 2016, the age of HIV-infected patients at presentation increased ($r = 0.40$, $P < 0.010$) while it remained stable for HIV-uninfected patients. Conversely, the HIV viral load at presentation declined over time ($r = -0.53$, $P < 0.001$) while there was no correlation between CD4+ count and year of admission. The proportion of comorbid conditions among HIV-infected patients was also not statistically different before and after 2010–2011.

Conclusion. In this large cohort, we found that HIV-infected patients had comparable stroke outcomes and comorbid conditions as HIV-uninfected patients who, on average, were 16 years older. Our finding that HIV-infected patients present with

stroke at older ages and with lower viral load over time suggests a potential change in the pathogenesis of stroke from viral-driven processes to more aging-related risk factors.

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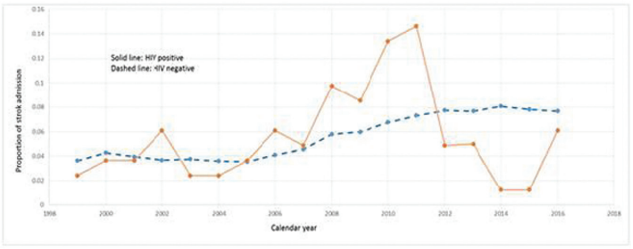
Table. Characteristics of patients hospitalized for a first episode of stroke, 1999-2016

Characteristics	HIV-infected patients		HIV-uninfected patients		p
	N	Cases/N (%)	N	Cases/N (%)	
Demographics					
Age, years	81	49 (1.33)[1]	20,187	65 (0.11)[1]	0.010
Male	81	55 (66)	20,187	9,712 (48)	0.010
Black	81	53 (66)	19,055	7,450 (39)	< 0.001
Smoking	81	46 (57)	20,187	5,943 (29)	< 0.001
Alcohol use	81	14 (17)	20,187	1,370 (7)	< 0.001
Illicit drug use	81	25 (30)	20,187	1,015 (5)	< 0.001
Stroke Outcomes					
NIH Stroke Severity	78		18,293		0.700
Mild		40 (52)		9,037 (49)	
Moderate		28 (36)		6,108 (34)	
Moderate-Severe		5 (6)		1,234 (7)	
Severe		5 (6)		1,914 (10)	
Length of hospital stay, days	81	9 (1.30)[1]	20,187	8 (0.11)[1]	0.430
Inpatient death	78	8 (10)	16,266	1,711 (11)	0.940
Receipt of t-PA	81	6 (7)	18,979	1,545 (8)	0.780
> 1 stroke admission	81	13 (16)	20,187	2,011 (10)	0.090
Pulmonary embolism	67	0 (0)	12,869	30 (0.2)	0.690
Deep venous thrombosis	67	0 (0)	12,870	114 (0.9)	0.440
Myocardial infarction	81	6 (7)	20,187	1,529 (8)	0.930
Aspiration pneumonia	67	0 (0)	12,870	170 (1.3)	0.340
Urinary tract infection	67	1(2)	12,869	346 (3)	0.540

[1]Mean (SE)
SE, standard error; NIH, National Institute of Health; t-PA, tissue plasminogen activator

Figure. Proportion of stroke admissions among HIV-infected and uninfected patients, 1999-2016



* The proportion of stroke admissions for both HIV-infected and uninfected patients is expressed as the number of stroke admissions at calendar year divided by the total number of stroke admissions for each group

549. MoCA Utility as a Quick Testing Tool for Neurocognitive Disorders in HIV Patients: Analysis of a Prospective Cohort

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Background. Since the introduction of highly active antiretroviral therapy, asymptomatic and mild neurocognitive impairment are the main clinical manifiestations of HIV associated neurocognitive disorders (HAND), compromising adherence to treatment, daily performance, quality of life, and even increasing the risk of mortality. We do not have validated screening tools for early detection of HAND applicable to the routine medical visit. The Montreal Cognitive Assessment test (MoCA) is a simple questionnaire used in Alzheimer's disease, but its utility as a screening tool for HAND remains controversial.

Methods. We designed a prospective study to establish MoCA´s usefulness as a rapid and sensitive tool for the detection of HAND, compared with a gold-standard test (GST) that includes Mini-mental State Examination (MMSE) and a battery of assays that evaluate several neurological domains. Adult patients with HIV infection attending our institution were included. The MoCA test was performed by infectious diseases specialists, and the GST by neurologists. History of recent stroke, neurological disease, opportunistic central nervous system infection, major depression, schizophrenia, bipolar disorder, substance abuse or dependence on alcohol, were exclusion criteria. We analized demographic and clinical variables.

Results. Fifty HIV-infected patients were enrolled, 94% males, with a mean age of 45.6 years (range 20–75), and an average of 14.8 years of education (range 3–26). The mean CD4 cell count was 596 cells/ml (range 65–1130), and 70% of the patients had undetectable viral load (≤20 copies/mL) at the time of the evaluation. Compared with GST, MoCA had a sensibility (S) of 94.12% (CI 71.3–99.8), specificity (E) 78.79% (CI 61.09–91.02), positive predictive value (PPV) 69.57% (CI 47–86.79) and negative predictive value (NPV) 96.3 (CI 81–99.9). In contrast, the MMSE presented S 11.76% (CI 1.46–36.44), E 100% (CI 89.4–100), PPV 100% (CI 15.8–100) and NPV 68.75% (CI 53.7–81.3). Cohen's kappa coefficient between MoCA and GST was 0.67 (95% CI 0.46–0.87), reflecting an adequate agreement.

Conclusion. MoCA's performance as a screening test was adequate compared with GST and far superior to MMSE for early detection of HAND. Although specifity could be optimized, MoCA test remains a valuable screening tool in the routine medical visit in our HIV population.

Disclosures. **All authors:** No reported disclosures.

550. Neurocognitive Decline in People Living with HIV in India and Correlation with 3T Magnetic Resonance Spectroscopy

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Background. Neurocognitive decline in asymptomatic HIV patients and its correlation with metabolic changes in brain has not been studied in developing countries like India. In the present study we aim to examine the correlation between cognitive decline and changes in brain metabolites using MRS.

Methods. ART naïve HIV-positive patients, in the age group 2050 years attending ART center of the hospital from July to December 2016 were included in the study. All patients underwent evaluation using MRS of left frontal white matter (FWM) and left basal ganglia (BG). Levels of Nacetyl aspartate (tNAA), choline (tCho), creatine (tCr), lipids and macromolecules at 0.9ppm (Lip09+MM09) were measured. Cognition was tested using a battery validated for Indian population. Locally normalized zscores were used to calculate brain dysfunction score. Spearman correlation coefficient was used to assess the correlation between two continuous variables. There were 28 (29% female and 71% male) cases and 30 (37% female and 63% male) controls.

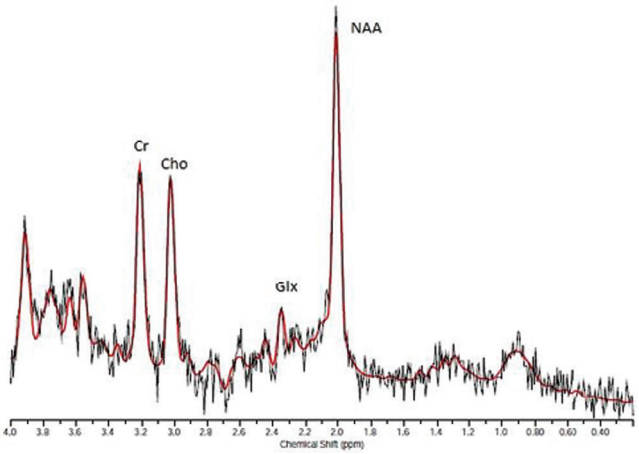
Results. The mean age was comparable in the 2 groups (33 and 34 years). There was a significant difference ($P < 0.05$) in the concentration (mmol/kg) of tNAA (9.29 ± 311 vs. 7.45 ± 0.64), tCho (2.08 ± 0.70 vs. 1.74 ± 0.25), tCr (6.95 ± 2.56 vs. 5.43 ± 0.61), in the FWM and Lip09 + MM09 (5.87 ± 1.05 vs. 4.80 ± 0.35) in BG, with higher levels in controls. There was no significant correlation between CD4 count and metabolites or overall dysfunction score and metabolites except Cr in FWM with more dysfunction associated with lower concentration (see Table 1)

Table 1: MR spectrum acquired from FWM of a patient.

	control n=30		case n=28		p value
	Mean (mmol/kg)	SD	Mean (mmol/kg)	SD	
BG tNAA	7.31	0.47	7.37	0.71	0.94
F tNAA	9.29	3.11	7.45	0.64	0.003
BG tCho	1.62	0.17	1.57	0.21	0.32
F tCho	2.08	0.70	1.74	0.25	0.015
BG tCr	6.95	1.51	6.60	0.91	0.29
F tCr	6.95	2.56	5.43	0.61	0.003
BG Glx	13.99	2.89	13.31	2.79	0.39
F Glx	15	6.06	9.93	2.11	0.0004

[Table 1]

Graph 1: MR spectrum acquired from FWM of a patient.



Conclusion. The results show that HIV-associated changes are present in asymptomatic people which may be contributing to the early neurocognitive decline. Knowledge of metabolic changes within studied brain regions can help understand the pathology and design interventions to cater to this unmet need in people living with HIV.