Objective: The aim of the current longitudinal study was to use improved brain white matter integrity outcomes (better at resolving white matter complexity, hence with improved biological significance compared to traditional diffusion tensor imaging - DTI outcomes) while considering baseline age, cardiovascular diseases (CVD), and HIV disease markers impacts on the health of major white matter tracts in virally suppressed people Living with HIV infection (PLHIV) versus demographically, geographically, and life-style comparable HIV-negative controls. Furthermore, white-matter hyperintensity (WMH) and normal-appearing white matter (NAWM) volumes and microstructure were considered.
Participants and Methods: At baseline 48 HIV-controls and 84 virally suppressed PLHIV (mean age 55), and at 24-month follow-up, 40 HIV-controls and 75 virally suppressed PLHIV underwent an MRI scan (3T Phillips) collecting a high-resolution anatomical MRI, FLAIR, and a 32-direction diffusion imaging. The diffusion data were processed using mrtrix and intra-cranial volume-corrected outcomes included fibre density (FD), fibre cross-section (log was used; logFC) and a composite fibre density and cross-section (FDC). The volumetric data was first processed in Freesurfer 6.0, and WMH were segmented using the "pgs" U-Net neural network. Using mixed models, we examine the longitudinal mrtrix outcomes across major white matter tracts by HIV status, and associations with CVD (sum of the scaled scores of total cholesterol, HDL, Systolic BP, current smoking, and diabetes) and HIV disease (HIV duration, historical AIDS, nadir CD4, baseline CD4) markers. Additionally, we assessed the volume, and FDC in the periventricular and deep WMH, as well as NAWM, and the associations with CVD and HIV disease markers. We used FDR control procedure (alpha = 0.05), and all p-values reported are FDR adjusted.
Results: Relative to controls, PLHIV showed significant reductions ($p<.05$ - $p<.01$) of FC, and FDC to a lesser extent, in multiple long cortical association tracts, and within striatal- and thalamic-frontoparietal connections. A small HIV by age interaction was only detected for FC of inferior longitudinal fasciculus (Beta = -0.004, SE = 0.002 $p<.04$). However, HIV duration (corrected for baseline age) was associated with worse FDC across multiple tracts ($p<03$ – $p<.001$). Baseline CD4 counts associated with lower FD in frontal association tracts ($p<.05$ – $p<.005$). Furthermore, WMH increased in size with time, age, and higher CVD risk factors, but not HIV status. In PLHIV, deep WMH and NAWM microstructure were both associated with worse CVD but not HIV disease markers.
Conclusions: The fine integrity of major white matter tracts is impacted by HIV status, HIV duration and baseline CD4, whereas WMH and NAWM volumes and microstructure are affected by CVD. Our study provides further evidence of the immuno-vascular underpinning of HIV neuropathogenesis in virally suppressed PLHIV. The convergence of these effects in aging PLHIV may lead to early neurodegeneration. Hence, improving CVD health and maintaining high CD4 is critical.

Categories: Infectious Disease (HIV/COVID/Hepatitis/Viruses)
Keyword 1: HIV/AIDS
Keyword 2: cardiovascular disease
Keyword 3: neuroimaging: structural
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43 Application of the Moroccan Arabic Bedside Western Aphasia battery-Revised in Acute Stroke Care

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Objective: Despite the prevalence of aphasia in Morocco, standardized quick assessment tools are not available for use with patients in acute stroke care. The present study set out to (1) describe the processes of linguistic adaptation of a Moroccan Arabic (MA) version of the Bedside Western Aphasia Battery-Revised (WAB-R), (2) examine the test's sensitivity to the detection of aphasia in an acute clinical setting, and (3) measure the instrument's ability to detect improvement in language ability in the acute period.
Participants and Methods: To achieve the first objective, the English Bedside WAB-R was adapted to Moroccan Arabic by a group of

https://doi.org/10.1017/S1355617723011256 Published online by Cambridge University Press

linguists. The instrument's psychometric properties were established by (1) ascertaining the test's sensitivity to the presence of aphasia, and (2) verifying the tool's validity and reliability. Participants included a group of age- and education-matched non-brain-damaged individuals (N = 106), a group of right hemisphere brain-lesioned patients (N = 20), and a group of left hemisphere aphasic patients (N = 52). To accomplish the second and third objectives, the Bedside MA-WAB-R was administered to a group of aphasic participants in the acute period (less than three months post-stroke), and a group of age- and education-matched participants (N = 20). Aphasic patients in the acute stage were tested twice on a seven-day interval (3 days and 10 days post-onset). All data were collected from the Neurology department at the University Medical Hospital Hassan II, and the study received approval from the ethics committee of the Faculty of Medicine and Pharmacy, Sidi Mohammed Ben Abdellah.
Results: Regarding the first objective, the results indicated that the MA-WAB-R is sensitive to the presence of aphasia, as revealed by the significantly worse performance of the aphasic group on all subtests relative to matched normal and right-hemisphere participants ($p = .000$). Analyses revealed excellent content and construct validity (correlations between subtests and AQ ranging from .5 to .8) as well as high inter-rater reliability, intra-rater reliability and test-retest reliability (ICC (2,1) > .9). For the second and third objectives, the results supported the test's sensitivity to the detection of aphasia in the acute phase, as confirmed by the significantly worse performance of aphasic patients relative to matched normal controls ($p = .000$). The instrument also proved as a reliable measure of language improvement in the acute period, as supported by better scores on the second testing point relative to the first across all subtests.
Conclusions: The MA-WAB-R is the first standardized assessment tool that can be used for a quick but reliable screening of aphasia in both chronic and acute clinical settings. The test can inform the initial diagnosis of aphasia, and guide a more comprehensive assessment of patients' spared and impaired linguistic abilities within a context receiving little attention in the aphasia literature.

Categories: Language and Speech Functions/Aphasia

Keyword 1: assessment
Keyword 2: aphasia
Keyword 3: stroke
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44 A Case Study of Non-Alcoholic Wernicke's Encephalopathy in a Young Man with Intractable Vomiting

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Objective: Wernicke's encephalopathy (WE) is an acute neurological condition caused by thiamine deficiency. The typical presentation is characterized by a triad of oculomotor abnormalities, gait ataxia, and altered mental status, though patients rarely present with all three symptoms. WE is a serious medical condition that is associated with high rates of morbidity and mortality if left untreated. It is most commonly seen in patients with severe alcohol use disorder; however, it has also been found in patients with thiamine deficiency due to other causes of malnutrition such as prolonged starvation, hyperemesis, dialysis, cancer, and geriatric surgery. Despite growing research demonstrating WE in non-alcoholic populations, it is frequently misdiagnosed in patients without an extensive alcohol-use history, particularly when they do not present with the typical clinical triad of symptoms. Thus, more knowledge about non-alcoholic WE is needed to improve diagnostic accuracy.
Participants and Methods: We present a case of a 26-year-old male with an unremarkable alcohol use history, who was diagnosed with WE following a 6-week period of excessive nausea and vomiting of unclear etiology. He presented to the ED three times prior to his diagnosis, and was treated with intravenous hydration, Zofran, and Pepcid. He presented to the ED for the fourth time with altered mental status and gait ataxia and was diagnosed with WE based on MRI findings. He was admitted and treated with high doses of IV thiamine and folate. His clinical course was tracked over time via outpatient

https://doi.org/10.1017/S1355617723011256 Published online by Cambridge University Press