

1472. Epidemiology of Meningitis in an HIV-infected Ugandan Cohort

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Background. There is limited understanding of the current epidemiology of meningitis amongst HIV-infected hospitalized populations in sub-Saharan Africa. Given limited resources, few diagnostics are performed. We sought to comprehensively evaluate the etiologies of meningitis in Uganda.

Methods. We conducted a prospective cohort study of HIV-infected adult inpatients admitted to Mulago National Referral Hospital in Uganda with suspected meningitis from November 2010 to October 2012. Intensive CSF testing was performed to evaluate for bacterial, viral, fungal, and mycobacterial etiologies. Test methods included standard CSF cell count, gram stain, AFB smear, bacterial and fungal cultures. Further testing included cryptococcal antigen, neurosyphilis VDRL, 16s rDNA PCR for bacterial identification, and Plex-ID broad viral assay. Additionally, qPCR was used to detect HSV-1/2, CMV, EBV, VZV, *Toxoplasma gondii*, West Nile, Yellow Fever, Dengue, Chikungunya, and Zika virus, along with qRT-PCR for Enterovirus, and Xpert MTB/RIF assay.

Results. Cryptococcal meningitis accounted for 60% (188/314) of all causes of meningitis. Only 1.6% had bacterial meningitis. Of the 117 samples sent for viral PCR, 36% were EBV PCR positive, some with concurrent infections with cryptococcal meningitis, or other viruses. No samples were enterovirus or HSV positive. All arboviral studies were negative. Eight out of 63 (12.7%) CSF samples were positive by Xpert MTB/RIF assay. Among cryptococcal antigen negative patients, the yield of Xpert MTB/RIF assay in the CSF was 22% (8/36). After exclusion of cryptococcal meningitis and bacterial meningitis, 62% (44 of 71) with suspected meningitis and an abnormal CSF profile had no definitive diagnosis. Results of Minnesota Department of Health testing

Etiology	Total (n=117)	Cryptococcal Meningitis (n=54)
EBV	42	21
EBV + CMV	3	2
CMV	2	0
JC virus	3	2
Toxoplasma	3	1
EBV + JC virus	3	2
EBV + VZV	1	0
CMV + Toxoplasma	1	0
BK virus	1	0
Enterovirus	0	0
Negative	58	26

Conclusion. *Cryptococcus neoformans* was the most common etiology of meningitis. The Xpert MTB/Rif assay was of potential promise. Exploration of new TB diagnostics along with diagnostic algorithms for evaluation of meningitis in resource-limited settings remains critical.

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