

Clin Infect Dis. 2009 Mar 15;48(6):816-21.

Lumbar Puncture in HIV-infected Patients with Syphilis and No Neurologic Symptoms.

Ghanem KG, Moore RD, Rompalo AM, Erbeding EJ, Zenilman JM, Gebo KA.

BACKGROUND: The decision to perform lumbar puncture in patients with asymptomatic human immunodeficiency virus (HIV) infection and syphilis is controversial. The Centers for Disease Control and Prevention recommend certain criteria that warrant lumbar puncture. Here, we assess the performance of these criteria for detecting asymptomatic neurosyphilis (ANS).

METHODS: Eligible subjects consisted of all patients with concurrent HIV infection and syphilis in a prospective clinical cohort who had no neurologic symptoms at the time of lumbar puncture. We retrospectively applied different stratification criteria to calculate the performance of lumbar puncture in detecting ANS: (1) lumbar puncture in patients with late latent syphilis or syphilis of an unknown duration, regardless of the CD4 cell count or rapid plasma reagin titer; (2) lumbar puncture if the CD4 cell count was 350 cells/mL and/or the rapid plasma reagin titer was 1:32, regardless of the syphilis stage; and (3) lumbar puncture in the context of serologic nonresponse to syphilis therapy.

RESULTS: Two hundred two of 231 patients with syphilis did not have neurologic symptoms. Immediate lumbar puncture was performed for 46 patients, and 10 cases (22%) of ANS were detected. With use of the first criterion, 2 (14%) of 10 cases of ANS in patients with early-stage syphilis would have been missed (sensitivity, 80% [95% confidence interval [CI], 44%-97%]; specificity, 76% [95% CI, 60%-89%]). Criterion 2 would not have missed any cases of ANS (sensitivity, 100% [95% CI, 70%-100%]; specificity, 87% [95% CI, 72%-96%]) but would have required that a lumbar puncture be performed for 88% of patients. Performance of lumbar puncture performed in 13 cases based on serologic nonresponse to syphilis therapy yielded 4 cases (31%) of ANS.

CONCLUSIONS: In patients with concurrent HIV infection and syphilis, the use of criteria based on rapid plasma reagin titer and CD4 cell count, instead of stage-based criteria, improved the ability to identify ANS.