

Tuberculous Meningitis

Tuberculous meningitis is an uncommon disease in the United States with an annual incidence of fewer than 200 cases. Good laboratory screening tests for tuberculous meningitis do not exist and the laboratory tests that are available are relatively expensive. Studies have shown that a direct acid-fast smear has a sensitivity from 0-30 %, while the sensitivity of culture is, at best, 50 %. For cultures and smears to be positive, a large amount of CSF (>7 ml.) and multiple specimens are necessary. Even then, a negative test does not rule out disease.

In the last six years, the microbiology laboratory has performed 310 acid-fast cultures on CSF. During this time, three patients were clinically diagnosed with tuberculous meningitis. Of these, only one patient was culture confirmed and this was after culturing a large amount of CSF. The diagnosis of tuberculous meningitis, therefore, is difficult, requiring a correlation of clinical and laboratory information, often with the aid of infectious disease and neurologic consultations.

Due to the poor sensitivity of current laboratory tests, the low prevalence of tuberculosis in the Midwest and the relative expense of tests, **acid-fast smears and cultures on CSF will no longer be performed routinely**. The specimen will be held for 7 days and the physician notified. If tuberculous meningitis is seriously suspected, please contact the microbiology laboratory at 354-4578. An infectious disease consult is strongly recommended in these cases.

REFERENCES:

Crowson, TW, et al, Overutilization of Cultures of CSF for Mycobacteria, JAMA, 251(1): 70-72, 1984.

Tarkin, A, et al, The Utility of Direct Acid-Fast Stain of Cerebrospinal Fluid for the Rapid Diagnosis of Tuberculosis Meningitis in Patients with and without AIDS, J Gen Intern Med, 12: 259, 1997.

Albright, RE, et al, Issues in Cerebrospinal Fluid Management, Acid-Fast Bacillus Smear and Culture, Amer J Clin Path, 9S(3): 418-423, 1991.

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