

## **SIXTEEN CASES OF CENTRAL NERVOUS SYSTEM (CNS) TUBERCULOSIS WITH BACTERIOLOGICAL CONFIRMATION DURING THE LAST DECADE IN A TERTIARY GENERAL HOSPITAL**

Z. Psaroudaki<sup>1</sup>, A. Argyropoulou<sup>1</sup>, S. Constantoulaki<sup>1</sup>, G. Margaritis<sup>1</sup>, E. Perivoliotis<sup>1</sup>, A. Karaferi<sup>1</sup>, S. Kanavaki<sup>2</sup>, O. Paniara<sup>1</sup>

Department of Clinical Microbiology, "Evangelismos Hospital" <sup>1</sup> and National Mycobacterium Reference Center<sup>2</sup>, Athens, Greece

**Purpose of the study:** CNS tuberculosis remains a difficult disease to diagnose. A high degree of suspicion is necessary for timely diagnosis and prompt initiation of therapy. We present sixteen cases (age: 34-82 years) with CNS laboratory confirmed tuberculosis.

**Methods:** During the last decade, a total of 772 samples of cerebrospinal fluid (CSF) or brain tissue biopsy were sent to our laboratory for mycobacteria detection. All specimens were examined for their microbiological features and cultured on the solid medium Löwenstein-Jensen and in the liquid culture system BACTEC MGIT 960, which employs the enriched Middlebrook 7H9 medium.

**Results:** Twenty-two specimens from sixteen patients (twelve men, four women) were found positive for *Mycobacterium tuberculosis*. The cell count of CSF ranged from 8 to 860 white blood cells per  $\mu\text{l}$ . In twelve cases (75%) lymphocyte predominance was found and in the rest four cases (25%) polymorphonuclear predominance was observed. Seven out of sixteen positive patients were immigrants (43.75%). One patient was HIV (+) and one woman was pregnant. In eight cases (50%) *M.tuberculosis* was identified by direct examination by Ziehl-Neelsen stain. In the culture system BACTEC MGIT 960, *M.tuberculosis* was isolated after 8 to 22 days of incubation (median time 11 days). All strains were sensitive to all first line anti-TB drugs. In three patients (18.75%) *M.tuberculosis* was also isolated from other body sides (respiratory tract, urinary tract and a psoas abscess).

**Conclusion:** Acid fast stain on CSF can be helpful for rapid diagnosis of CNS tuberculosis. Culture of CSF in liquid culture system decreases the time for detection of *M.tuberculosis*.