Intracranial miliary tuberculomas

A 27-year-old woman without tuberculosis contact history presented with intermittent fever, cough and chills for 2 months. On admission, she had a temperature of 40°C. Physical examination of the chest, abdomen and nervous system showed no obvious abnormal findings whereas thoracic computed tomography showed miliary nodules diffusely distributed throughout both lungs. Acute miliary pulmonary tuberculosis was confirmed by sputum culture and the presence of TB-DNA performed by polymerase chain reaction. She received standard antituberculous treatment with isoniazid, rifampicin, ethambutol and pyrazinamide.

However, she developed progressive headache, nausea and vomiting after 2 months of antituberculous drugs. Examination of the nervous system showed neck stiffness. Contrast-enhanced magnetic resonance imaging (MRI) showed ring-like enhancement of multiple nodular lesions in cerebrum, cerebellum, brain stem, sulci and ventricle, suggestive of caseating granuloma (Figure 1a). She was undergone lumber puncture. The pressure was 205 mmH2O. The content of chloride, glucose and protein were 122.0 mmol/l, 2.38 mmol/l and 0.66 g/l, respectively. The cerebrospinal fluid cytology revealed hybrid cytological reaction, dominated by neutrophils and lymphocytes. Mycobacterium tuberculosis in cerebrospinal fluid was found by modified acid-fast staining method (Figure 1b) and TB-DNA in cerebrospinal fluid was verified by Gene Xpert MTB/RIF. Levofloxacin and corticosteroid were added considering of paradoxical response and resistance to antituberculous regimen. We diagnosed the patient as having intracranial miliary tuberculomas with tuberculous meningitis and miliary tuberculosis. After 2-month of medication, MRI showed reduced lesions.

Tuberculous meningitis and tuberculoma are the most common forms of the tuberculosis of central nervous system, which are often seen in miliary tuberculosis. Tuberculomas are most often supratentorial in adults. Intracranial miliary tuberculomas involving with cerebrum, cerebellum, brain stem, sulci and ventricle accompanied with tuberculous meningitis and miliary tuberculosis are very rare. Modified acid-fast staining method is convenient and rapid for identifying M. tuberculosis.\(^1\)

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Reference