Abstract 1189

CLINICOPATHOLOGICAL FINDINGS OF PATIENT WITH MOG ANTIBODIES DETECTED ONLY IN CEREBROSPINAL FLUID

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Background and Aims:

Anti-myelin oligodendrocyte glycoprotein antibodies (MOG-Abs) are generally produced in blood, though only detected in cerebro spinal fluid (CSF) in some cases. Thus, the relationship of CSF MOG-Abs with disease pathology is unclear.

Methods:

Here, we report clinicopathological findings of a patient with increased MOG-Abs in only the CSF.

Results:

A 31-year-old female was presented with T10 level sensory loss and urinary retention. Spinal cord MRI findings showed long T2 hyperintense lesions from the medulla oblongata to the T2 level and from T8 to 12. Brain FLAIR MRI revealed multiple high intensity lesions in the periventricular area, corpus callosum, basal ganglia, and brainstem. CSF analysis indicated increased lymphocytic pleocytosis, protein, IgG index, myelin basic protein, and oligoclonal bands. On autoimmune screening, MOG-Abs only in the CSF were detected with a live cell-based assay (titer 1:1024). The patient rapidly developed tetraplegia, a comatose state, and respiratory failure requiring a respirator. Despite treatments with steroids, intravenous immunoglobulin, and plasma exchange, death due to sepsis occurred six months after onset. A pathological microscopic examination revealed demyelination, macrophage infiltration, and gliosis in the cerebrum (corpus callosum, white matter, periventricular, etc.), brain stem, and spinal cord, with activated complement deposition and CD4-T-cell infiltration around intrameningeal vessels also recognized. Notably, extensive necrosis from the medulla oblongata to cervical spinal cord indicated poor prognosis and marked demyelination adjacent to the CSF cavity suggested a relationship with sustained intrathecal antibody production.

Conclusions:

These findings indicate a pathogenic role of CSF MOG-Abs and need for measurement in highly probable cases.

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