Anti-AQP4 (+) NMO spectrum disorder associated with central nervous system Tuberculosis.

Authors: Christian Garcia-Estrada[1] MD, : Enrique Gomez-Figueroa[1] MD, Adriana Casallas[1] MD, Indhira Zabala[1] MD, Ramon Martinez[2] MD, Verónica Rivas-Alonso MD MsC[1], José Flores-Rivera MD MsC[1,2]

[1] Multiple sclerosis and Demyelinating disorders Clinic, Instituto Nacional de Neurología y Neurocirugía, México City, México.
[2] Neurology Department, Instituto Nacional de Neurología y Neurocirugía, México City, México

Abstract

Neuromyelitis optica spectrum disorder (NMOsd) is an inflammatory astrocytopathy that has both genetic and environmental cause. The exact etiology and pathogenesis of NMOsd is partially known, complex interactions between genetic and environmental factors are thought to be involved in its development. Infectious diseases have received particular attention since they have long been considered as triggers of many autoimmune disorders. Here we report two cases of positive aquaporin 4 (AQP4) serostatus NMOsd in relation to granulomatous infection of the central nervous system. Both patients presented initially with active Tb meningitis signs and symptoms with posterior development of LETM positive for anti AQ4 antibodies. CSF hypercellularity and elevated proteins were initially documented. The evolution was rather favorable with clinical and radiological improvement based on antituberculous treatment and a cycle of IV steroids. Although various cases of active pulmonary, renal and abdominal Tb has been documented in association with NMOsd no mechanism of association has been discovered, interestingly the seropositive NMOsd is variable. We theorized a genetically background in our population may be associated with this uncommon phenotype. If this phenomenon corresponds to an immune dysfunction caused directly by the bacillus, direct Tb infection or a cross-reaction is to be determinate.

KEY WORDS:

Neuromyelitis optica; Tuberculosis; Antiaquaporin