Diagnosis biomarkers in AQP4 Ab seronegative neuromyelitis optica; How to help clinical decision making? – 30181

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Neuromyelitis optica (NMO) and NMO spectrum disorders (NMOSD) are inflammatory disorders of central nervous system. Most patients with NMO have detectable serum antibodies that target the water channel aquaporin-4 (AQP4). These antibodies are highly specific for clinically diagnosed NMO, and have pathogenic potential. However, a considerable number of phenotypic NMO patients are negative for AQP4 antibodies. Recently, additional autoantibodies have gained attention as candidate biomarkers of NMO/NMOSD, particularly in seronegative cases. Various other myelin and non-myelin antigens were investigated in detail for diagnostic and prognostic purposes, such as antibodies to neurofilaments and KIR4.1, which both require further studies. Antibody against myelin oligodendrocyte glycoprotein(anti-MOG) have been found to be relevant in about 25% of patients with AQP4- seronegative NMOSD. Clinically, these patients have shown younger disease onset, more benign clinical course with a lower relapse rate and a longer time to a second attack affecting different CNS regions compared to the AQP4-seropositive and seronegative patients. Other reported autoantibodies in NMO/NMOSD include NMDA-type glutamate receptor (e.g., CV2/ CRMP5) and glycine receptor antibodies and also antibodies against other aquaporin proteins (e.g., AQP1).The role of B cell dysregulation, T lymphocyte response, genetic biomarkers, molecular markers of inflammation and their clinical relevance are also will be discussed separately in this paper.

Keywords : Neuromyelitis optica, biomarker, aquaporin, antibody.