What percentage of AQP4-ab-negative NMOSD patients are MOG-ab positive? A study from the Argentinean multiple sclerosis registry (RelevarEM)

Abstract

Background

Myelin oligodendrocyte glycoprotein antibodies (MOG-ab) have been described in aquaporin-4-antibodies(AQP4-ab)-negative neuromyelitis optica spectrum disorder (NMOSD) patients. We aimed to evaluate the percentage of AQP4-ab-negative NMOSD patients who are positive for MOG-ab in a cohort of Argentinean patients included in RelevarEM (Clinical Trials registry number NCT03375177).

Methods

RelevarEM is a longitudinal, strictly observational multiple sclerosis (MS) and NMOSD registry in Argentina. Of 3031 consecutive patients (until March 2020), 165 patients with phenotype of suspected NMOSD, whose relevant data for the purpose of this study were available, were included. Data on demographic, clinical, paraclinical and treatment in AQP4-ab (positive, negative and unknown) and MOG-ab (positive and negative) patients were evaluated.

Results

A total of 165 patients (79 AQP4-Ab positive, 67 AQP4-Ab negative and 19 unknown) were included. Of these, 155 patients fulfilled the 2015 NMOSD diagnostic criteria. Of 67 AQP4-Ab-negative patients, 36 (53.7%) were tested for MOG-Ab and 10 of them (27.7%) tested positive. Serum AQP4-ab levels were tested by means of cell-based assay (CBA) in 48 (35.2%), based on tissue-based indirect immunofluorescence assays in 58 (42.6%) and enzyme-linked immunosorbent assay in 4 (2.9%). All MOG-ab were tested by CBA. Optic neuritis (90%) was the most frequent symptom at presentation and optic nerve lesions the most frequent finding (80%) in neuroimaging of MOG-ab-associated disease. Of these, six (60%) patients were under immunosuppressant treatments at latest follow-up.

Conclusion

We observed that 27.7% (10/36) of the AQP4-ab-negative patients tested for MOG-ab were positive for this antibody, in line with results from other world regions.

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