MOG-IGG-ASSOCIATED DISORDER AND SYSTEMIC LUPUS ERYTHEMATOSUS DISEASE: SYSTEMATIC REVIEW

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BACKGROUND

Myelin oligodendrocyte glycoprotein (MOG) is a nervous system protein expressed by oligodendrocytes to constitute the myelin sheath. Autoantibodies against MOG have been widely described in neurological and autoimmune diseases such as MOG-IgG-associated disorder (MOGAD). Although underlying mechanisms have not yet been understood, an overlap of MOGAD and systemic lupus erythematosus (SLE) has been shown in the literature. The aim of this systematic review was to assess the possible correlations between MOGAD and SLE based on reported features found in the literature that support the association of the two.

METHODS

A keyword-based literature search was conducted applying a 10-year filter and using the following keywords: "MOG autoantibody-associated disease and systemic lupus erythematosus"; "MOG and systemic lupus erythematosus"; "anti-MOG and lupus"; "MOG and SLE"; "MOG and lupus" on MEDLINE/PubMed, ScienceDirect, SciELO, LILACS and Cochrane; and "MOG antibody-associated disease and SLE" on Google Scholar.

RESULTS

Eleven publications reporting on the MOGAD and SLE correlation were included in qualitative synthesis: animal experiment (1), cross-sectional (3), prospective (2), retrospective (1), nonsystematic review (3), and case report (1) studies.

CONCLUSION

Not much is known about the association of MOGAD and SLE. MOG-IgG has been detected in a subgroup of SLE patients with AQP4-IgG negative NMOSD in some studies,¹ but not in others.^{2,3} The prevalence of NPSLE is higher in anti-Nervous System (anti-NS) antibody-positive patients, and NPSLE is even more frequent when these anti-NS antibodies are anti-MOG-IgG.¹² Also, the frequency of anti-MOG antibodies is higher in demyelinating NPSLE than in NPSLE without demyelination.¹ However, not all NPSLE individuals presented the finding of MOG-IgG seropositivity.²

While some authors might argue that there is a possible overlap between these diseases (mainly NPSLE and NMOSD, that share a similar demyelination pattern),¹ a third, distinct disease may also be possible due to autoimmune predisposition.⁴

Among our limitations, it is important to highlight that only observational studies have been conducted in humans so far. This constitutes a problem because many factors could have contributed to the divergent data that was found, such as different drugs, patient numbers and immunoassays. Finally, further studies are needed for a better understanding of this association, with comparable population (age, sex, drugs, comorbidities) and immunoassays."

KEYWORDS

MOG, MOG-associated disorder, Neuromyelitis optica spectrum disorders, Neuropsychiatric systemic lupus erythema, Systemic lupus erythematosus.

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