

INPLASY PROTOCOL

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Corresponding author:
Wu Zhihong

hmfl7606@126.com

Author Affiliation:
Wuhan NO.1 hospital.

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Association between Sjögren's syndrome and neuromyelitis optica spectrum disorder patients : a systematic review and meta-analysis

Wu, ZH¹; Wang, D²; Chen, LR³.

Review question / Objective: Is Sjogren's syndrome(SS) associated with the neuromyelitis optica spectrum disorder (NMOSD)?

Information sources: We comprehensively searched published studies indexed in PubMed, Cochrane Library and EMBASE databases from date of inception to June 2022. References of all selected studies were also examined. The following main search terms were used: Sjögren's syndrome, Sjögren, sicca syndrome; NMO Spectrum Disorder, NMO Spectrum Disorders, Neuromyelitis Optica (NMO) Spectrum Disorder, Neuromyelitis Optica, devic disease; devic syndrome; A manual search of references of selected retrieved articles was also performed.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 July 2022 and was last updated on 17 July 2022 (registration number INPLASY202270080).

INTRODUCTION

Review question / Objective: Is Sjogren's syndrome(SS) associated with the neuromyelitis optica spectrum disorder (NMOSD)?

Condition being studied: There are many reports that Sjögren's syndrome (SS) patients may be affected by the neuromyelitis optica spectrum disorder (NMOSD).The relationship between SS and NMOSD has been a sustained focus of investigation. However, the related data are

scarce and inconclusive. We will perform a systematic review and meta-analysis of available articles that assess the association between SS and the NMOSD.

METHODS

Participant or population: Participants of 18 years of age or older with Sjogren's syndrome or NMOSD.

Intervention: Participants with Sjogren's syndrome with the neuromyelitis optica spectrum disorder.

Comparator: Participants without Sjogren's syndrome.

Study designs to be included: This review included all published observational studies including cross-sectional, prospective cohort, retrospective cohort, and case-control studies that assessed the association of Sjogren's syndrome and NMOSD. Reviews, case reports, and abstracts were excluded because their quality of studies could not be evaluated.

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Main outcome(s): Odd ratios, relative risks or hazard ratios or number participants with the neuromyelitis optica spectrum disorder.

Quality assessment / Risk of bias analysis: A subjective assessment of methodological quality for observational studies was evaluated by each investigator using the Newcastle-Ottawa Scale (NOS). The NOS is a quality assessment tool for non-randomized studies. The NOS is based on three major components: selection of the study groups (0–4 stars), comparability of cohorts and controls (0–2 stars), and ascertainment of outcome (0–3 stars). Discrepant opinions between authors were resolved by consensus. A total score of 3 or less was considered poor, 4–6 was considered moderate, and 7–9 was deemed high quality. We excluded poor quality study in the sensitivity analysis.

Strategy of data synthesis: We will perform meta-analysis of the included studies using Review Manager (Revman) 5.4 software. We will calculate all the effect measures with a 95% confidence interval. We will assess the statistical heterogeneity between studies through the I^2 statistic and considered the presence of significant heterogeneity for values superior to 50%.

Subgroup analysis: We will plan subgroup analyses considering the specific antibodies, time of disease and age. We will also plan sensitivity analyses considering the risk of bias and heterogeneity between studies and the statistical model used in the meta-analyses. We will evaluate the quality of evidence through the GRADE approach.

Sensitivity analysis: We will plan sensitivity analyses considering the risk of bias and heterogeneity between studies and the statistical model used in the meta-analyses.

Country(ies) involved: China.

Keywords: Sjögren's syndrome, Neuromyelitis Optica Spectrum Disorder, Anti-Ro/SSA antibody, Anti-aquaporin-4

antibody, Neuromyelitis optica,systematic review, meta-analysis.

Contributions of each author:

Author 1 - Wu Zhihong.

Email: hmf17606@126.com

Author 2 - Wang Dong.

Email: dr_wangdong@126.com

Author 3 - Chen Lirong.

Email: magic7091@163.com