DAREMUS
Dansk Selskab for Forskning i Multipel Sklerose

Abstract form: Max 350 ord (punkt 3 – 6) på max én A4 side

Ønsker deltagelse i foredragskonkurrencen (4 abstracts udvælges): JA (X) ; NEJ ( )

Navn Kerstin Soelberg **Institution** IRS, SDU **Alder** 28 (hvis deltagelse i konkurrence)

1) **Titel:** Retinal nerve fiber layer evaluation in neuropsychiatric systemic lupus erythematosus patients positive for aquaporin-4 IgG

2) **Forfattere:** Soelberg K[1], Mehlsen J[2], Jarius S[3], Lillevang ST[4], Laustrup H[5], Voss A[5], Asgari N[1]

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3) **Hypotese:** Serum immunoglobulin G targeting the astrocyte water channel aquaporin-4 (AQP4) in the central nervous system (CNS) is a biomarker for neuromyelitis optica spectrum disease (NMOSD). The clinical features of NMOSD include inflammation of the optic nerve and the spinal cord. We hypothesize that aberrations occur in the retinal nerve fiber layer in neuropsychiatric (NP) Systemic Lupus Erythematosus (SLE) patients with AQP4-IgG positivity as evaluated by optical coherence tomography (OCT).

4) **Metoder:** Patients originated from a population-based retrospective case series of 208 patients with SLE with clinical and serological investigations. The patients received immunosuppressive treatment. All patients fulfilled the American College of Rheumatology criteria for SLE. Retrospectively, NMOSD was evaluated based on the criteria of Wingerchuk (2006) and recent international consensus criteria for the diagnosis of NMOSD. AQP4-IgG was measured with a recombinant immunofluorescence assay using HEK293 cells transfected with recombinant human full-length AQP4 gene and evaluated by a cell based assay in a blinded fashion. The peripapillary retinal nerve fiber layer (RNFL) was measured by Spectralis OCT and used to evaluate disturbances of the visual pathway. Color vision was tested by Ishihara test.

5) **Resultater:** Of 208 patients with SLE 45 had a medical history of neuropsychiatric (NP) SLE. Serum AQP4-IgG was detected in two NPSLE patients. These two patients suffered from NMOSD with transverse myelitis, they had never experienced any clinical signs of optic neuritis. Visual acuity, color vision and peripapillary RNFL thickness were within the normal range. The macula area was evaluated in both patients and was without suspicion of other eye diseases.

6) **Diskussion:** AQP4-IgG autoimmune syndrome associated to NPSLE patients did not as an obligatory finding show subclinical optic neuritis based on OCT measurement. Co-existence of NMOSD and SLE /NPSLE suggests a general susceptibility to antibody-mediated autoimmune diseases.