Comparing therapies for a rare autoimmune disease

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In the course of a study conducted throughout Germany, medical professionals have compared different treatment methods for Neuromyelitis optica, an inflammatory disease of the central nervous system. It turned out that the best results were not achieved with conventional steroid therapy. Under the auspices of the Ruhr-Universität Bochum and the Hannover Medical School, the team published their findings in the journal *Annals of Neurology*.

Relapsing disease course

Neuromyelitis optica is a relapsing disease. Treatment data of 871 episodes in 185 patients were entered into the study. They had been gathered in different locations covered by the Neuromyelitis optica study group (NEMOS), a network of neurological university clinics and hospitals. The study was headed by Prof Dr Ingo Kleiter from the Ruhr-Universität's Neurology Clinic at St. Josef Hospital and PD Dr Corinna Trebst from the Clinic for Neurology at the Hannover Medical School.

Conventional therapies do not achieve the best results

The analysis confirmed earlier findings, namely that the episode symptoms regress completely in only one-fifth of all patients. Inflammation of the spinal cord in particular is difficult to treat. "Considering the poor prognosis, it is crucial to commence intensive treatment at an early stage," says Prof Dr Ingo Kleiter. A combination of

different therapy methods is much more suitable for this purpose than single therapies, according to a conclusion of the study. For myelitis, the conventional treatment with steroid preparations turned out to be less effective than blood purification therapy. For the purpose of this replacement therapy, the patient's blood is purified using filters, in a process similar to dialysis, and then it is reinjected into the patient via an infusion drip; alternatively, it is replaced with a blood substitute such as albumin.

About the disease

Neuromyelitis optica is a rare autoimmune disease of the spinal cord and brain, which was long considered a sub-form of Multiple Sclerosis. It has been understood for several years that, in patients suffering from this disease, immune cells attack the aquaporin-4 water channel of the brain cells. During the episodes, inflammation of the optic nerve or the spinal cord occurs frequently. In the long term, patients can go blind or suffer severe disabilities.

More information: Ingo Kleiter et al. Neuromyelitis optica: Evaluation of 871 attacks and 1153 treatment courses, *Annals of Neurology* (2015). DOI: 10.1002/ana.24554

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