Introductory Remarks to Symposium 4

Neurological autoimmunity: the role of pathogenic antibodies against neuron and glia proteins

Christian Moritz and Claudia Sommer, Saint-Étienne/ Lyon (France) and Würzburg

Autoimmune disorders affect 5-10% of the population. The nervous system is a common target of autoimmunity, e.g., via autoantibodies. Around 20 diseases have already been identified to be at least partly caused by autoantibodies against neural proteins. These discoveries have illuminated pathophysiology and may improve future diagnostics and treatment options.

The speakers of our symposium, leading researchers of this field, will report about recent research highlights and give examples of autoantibody-related neuronal diseases. They will discuss implications for diagnostics & treatment and address the definition of new disease entities.

Brigitte Wildemann will focus on pathogenesis and clinical peculiarities of diseases related with antibodies against neuronal transmembrane proteins. Her group described a wide clinical range of aquaporin-4 (AQP-4)- and myelin oligodendrocyte glycoprotein (MOG)-related autoimmunity and found that anti-AQP-4 antibodies predict disease progression and success of treatment.

Edgar Meinl will focus on the pathogenicity of MOG-Abs and on details of antigen recognition. His group has shown that antibodies to MOG affinity-purified from the blood of patients were pathogenic upon transfer into rats by two different mechanisms. The heterogeneity of epitopes on MOG recognized by patients will be presented.

Claudia Sommer likewise has many years of clinical and research experience in neuropathies and will expand the view to the peripheral nerve system. Here, paranodal proteins are an autoantibody target. Known axo-glial antigens will be focused, such as the paranodal contactin-associated protein 1 (CNTNAP1).

Dominik Jäger will fill the gap between the autoantibody discovery and its diagnostic use. As an expert of method standardization for medical diagnostics, he will talk about technical challenges for developing standardized serological tests for the detection of autoantibodies.

Our student speaker Yara Nasser will report about the role of anti-FGFR3 antibodies in peripheral sensory neuropathies and the molecular mechanisms of induced neurotoxicity.

Symposium 4

Wednesday, March 20, 2019
14:30 - 16:30, Lecture Hall 104

Chairs: Christian Moritz and Claudia Sommer,
Saint-Étienne/Lyon (France) and Würzburg

14:30 **Opening Remarks**

14:35 Brigitte Wildemann, Heidelberg
THE CLINICAL SPECTRUM AND DIAGNOSIS OF AQP4-IGG-ASSOCIATED AND MOG-IGG-ASSOCIATED DISORDERS (S4-1)

15:00 Edgar Meinl, Munich
AUTOANTIBODIES AGAINST MYELIN OLIGODENDROCYTES GLYCOPROTEIN (MOG): DETAILS OF ANTIGEN RECOGNITION AND PATHOGENICITY (S4-2)

15:25 Claudia Sommer, Würzburg
AUTOANTIBODIES IN PERIPHERAL NEUROPATHIES (S4-3)

15:50 Dominik Jäger, Lübeck
DEVELOPMENT OF AUTOANTIBODY TEST SYSTEMS AGAINST NEURAL PROTEINS (S4-4)

16:15 Yara Nasser, Saint-Étienne/Lyon, France
ANTI-FGFR3 ANTIBODY: A BIOMARKER OF SENSORY NEURONOPATHIES OR AN ACTIVE PLAYER OF NEURON DEGENERATION? (S4-5)

16:25 **Concluding Remarks**