165 PREGNANCY OUTCOME IN AQUAPORIN-4 POSITIVE NEUROMYELITIS OPTICA SPECTRUM DISORDER: A MULTI-CENTER RETROSPECTIVE COHORT STUDY

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Objective Neuromyelitis Optica Spectrum Disorder (NMOSD) predominantly affects women and is often active during childbearing years. We investigated the association between NMOSD and pregnancy outcome.

Methods Multivariate logistic regression was used to investigate whether pregnancies after NMOSD onset were at an increased risk of miscarriage or preeclampsia in an international cohort of 60 women with aquaporin-4 antibody-positive NMOSD and at least one pregnancy.

Results Miscarriage and preeclampsia rates were 12.9% and 11.5%, respectively, increasing to 42.9% and 13.3% in pregnancies after NMOSD onset. Pregnancies after NMOSD onset had a significantly increased risk of miscarriage, independent of

maternal age or maternal history of miscarriage (OR 7.28). Furthermore, the influence of NMOSD on miscarriage risk is present up to 3 years before disease onset (OR 9.85–11.6). Pregnancies after NMOSD ending in miscarriage were associated with higher pre-pregnancy and intra-pregnancy annualized relapse rates compared to viable pregnancies (mean ARR: 0.177 vs. 0.0250, respectively). The preeclampsia rate reported here is higher than reported in multiple sclerosis and population studies, however no association existed between NMOSD timing and preeclampsia. There was an increased risk of preeclampsia in women with multiple other autoimmune disorders and a miscarriage in the most recent previous pregnancy.

Interpretation Pregnancy after NMOSD onset is an independent risk factor for miscarriage, and women with more active disease in the peri-pregnancy period may be at increased risk of miscarriage. Women who develop NMOSD and have multiple other autoimmune disorders are at an increased risk of preeclampsia.