

# Brain disorder may increase miscarriage and preeclampsia risk in pregnancy

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Neuromyelitis optica spectrum disorder, a disease often confused for multiple sclerosis, may increase a woman's risk for miscarriage and preeclampsia during pregnancy, according to a study published in the November 18, 2015, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

The disorder causes inflammation in the central nervous system, affecting mainly the spinal cord and the nerves to the eyes, although the brain may be affected also.

"Women with neuromyelitis optica have a high risk of [miscarriage](#) particularly in pregnancies occurring within the three years prior to, or after, when the [disease](#) starts," said study senior author Maria Isabel Leite, MD, DPhil, of the University of Oxford in the United Kingdom. "So unfortunately, some of these [women](#) may not even know they are going to have the disease at the time of miscarriage."

For the study, 60 women with a history of at least one pregnancy and a diagnosis of neuromyelitis optica spectrum disorder (NMOSD) were interviewed and their medical records were reviewed. Of those, 40 were analyzed for miscarriages and 57 for preeclampsia ([high blood pressure](#) and protein in the urine during pregnancy, which can threaten the life of the mother and baby).

Of the 40 women with a diagnosis of NMOSD, there were 85 pregnancies. Eleven pregnancies in six women (which represents 13

percent of all pregnancies) ended in miscarriage; this percentage is similar to the rate that occurs in the general population. But six of the 14 pregnancies (43 percent) that occurred after the disease started ended in miscarriage. Pregnancies conceived up to three years before disease onset were nearly 12 times as likely to end in miscarriage, regardless of the mother's age or past history of miscarriage. Women whose pregnancies ended in miscarriage after or up to one year before the disease began also had more disease activity from nine months prior to conception to the end of pregnancy, compared to viable pregnancies.

The rate of preeclampsia was also significantly higher, at 11.5 percent, than the 3.1 percent reported in the general population. The odds of preeclampsia were greater in women who also had multiple other autoimmune disorders or miscarriage in the most recent previous pregnancy, but disease onset was not a risk factor.

Leite said the main problems with this study are the small sample size, the fact that patients were studied retrospectively, and the lack of pathological data from placenta samples. "Larger studies need to be done to confirm our findings. However, our study suggests that preventing disease activity prior to and during pregnancy appears to be essential to improving pregnancy outcomes in women with neuromyelitis optica," said Leite.

Provided by American Academy of Neurology

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