Study finds clear link between autoimmune disease and perinatal depression

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Women with autoimmune disease are more likely to suffer from depression during pregnancy and after childbirth; conversely, women with a history of perinatal depression are at higher risk of developing
autoimmune disease, a new study from Karolinska Institutet published in the journal *Molecular Psychiatry* reports.

In autoimmune disease, the immune system mistakenly attacks the body's own healthy tissue. Some of the most common autoimmune diseases are gluten intolerance (celiac disease), autoimmune thyroiditis, rheumatoid arthritis, type 1 diabetes, and multiple sclerosis (MS).

In the present study, researchers used data from the Swedish Medical Birth Register and identified all women who had given birth in Sweden between 2001 and 2013. Out of the resulting group of approximately 815,000 women and 1.3 million pregnancies, just over 55,000 women had been diagnosed with depression during their pregnancy or within a year after delivery.

The researchers then compared the incidence of 41 autoimmune diseases in women with and without perinatal depression, controlling for familial factors such as genes and childhood environment by also including the affected women's sisters.

**Strongest association for MS**

The results reveal a bidirectional association between perinatal depression and autoimmune thyroiditis, psoriasis, MS, ulcerative colitis, and celiac disease. Overall, women with autoimmune disease were 30% more likely to suffer perinatal depression. Conversely, women with perinatal depression were 30% more likely to develop a subsequent autoimmune disease.

The association was strongest for the neurological disease MS, for which the risk was double in both directions. It was also strongest in women who had not had a previous psychiatric diagnosis.
"Our study suggests that there's an immunological mechanism behind perinatal depression and that autoimmune diseases should be seen as a risk factor for this kind of depression," says the study's first author Emma Bränn, researcher at the Institute of Environmental Medicine at Karolinska Institutet.

Can have serious consequences

The researchers will now continue to examine the long-term effects of depression during pregnancy and in the first year following childbirth.

"Depression during this sensitive period can have serious consequences for both the mother and the baby," says Dr. Bränn. "We hope that our results will help decision-makers to steer funding towards maternal health care so that more women can get help and support in time."

Since this was an observational study, no conclusions on causality can be drawn.

More information: Bidirectional association between autoimmune disease and perinatal depression: a nationwide study with sibling comparison, *Molecular Psychiatry* (2024). DOI: 10.1038/s41380-023-02351-1

Provided by Karolinska Institutet

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