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Antidepressants during pregnancy and fetal development

DOI: 10.1038/NPP.2014.114

Rates of a minor brain malformation vary in the children of mothers with depression depending on prenatal exposure to antidepressants, reports a small study published in *Neuropsychopharmacology*. Replication is needed to confirm the association and establish whether other factors might mediate this relationship. The authors caution that clinicians should not alter their prescribing practices until further studies are completed.

Antidepressants such as selective serotonin reuptake inhibitors (SSRIs) are frequently prescribed to pregnant women, but it is unclear if this has an effect on fetal development. Rebecca Knickmeyer and colleagues analyzed brain scans of 33 children whose mothers received a diagnosis of depression and took SSRIs during pregnancy and compared these to 66 children whose mothers had no history of

depression. In addition, 30 children whose mothers were diagnosed with depression but did not take SSRIs were compared to 60 children whose mothers had no history of depression. They find that SSRI-exposed children were more likely to be diagnosed with Chiari I malformation (CIM) than matched comparison children. In contrast, children whose mothers were diagnosed with depression but did not take SSRIs did not differ from matched comparison children in the occurrence of CIM. CIM is a disorder in which brain tissue extends into the spinal canal due to a misshapen skull. The majority of CIMs are asymptomatic, but up to a third develop symptoms such as severe headaches, problems with balance, and poor vision. A small portion of cases require surgery to alleviate symptoms.

The results suggest that children of depressed mothers treated with SSRIs during pregnancy may be at an increased risk for CIM; however, other factors that differentiate women treated with SSRIs could be responsible for the observed increase. Such factors include severity of depression and genetic risk for depression, which were not directly evaluated in this study. The authors also note that although serotonin plays a role in skull development, there is not a clear mechanism linking SSRIs to CIM. The authors also emphasize that due to the small sample size tested in this study and potential consequences of leaving depression untreated during pregnancy, antidepressants should not stop being prescribed to pregnant women until larger and more in-depth studies are performed.

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