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In-Utero SSRI and SNRI Exposure and the Risk of Neurodevelopmental Disorders in Children: A Population-Based Retrospective Cohort Study Utilizing Linked Administrative Data

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Introduction

Many studies demonstrating an association between in utero exposure to serotonergic antidepressants and higher risk of neurodevelopmental disorders in children are confounded by history of maternal depression and disease severity. We conducted a population-based analysis of women diagnosed with mood/anxiety disorder, a patient population for whom pharmacotherapy is clearly indicated.

Conclusion/Implications

In the absence of randomized control trials, large observation studies using sophisticated data analysis are the gold standard of evidence to help patients and clinicians making the decision to continue antidepressant use during pregnancy. Results of this study reassure women for whom the medication is clinically indicated.

Objectives and Approach

Using linked population-based administrative data, we identified all mother-newborn pairs in Manitoba (born 1996 to 2009, with follow-up through 2014). High dimensional propensity scores and inverse probability treatment weighting were used to address confounding by indication and disease severity. The final trimmed cohort consisted of mothers who were diagnosed with a mood/anxiety disorder from 90 days prior to conception until delivery (n=4995). Cox Proportional Hazard Regression models were used to estimate risk of Autism Spectrum Disorder, epilepsy and attention deficit hyperactivity disorder (ADHD) in offspring. In addition to clinical data, we used novel education data to define outcomes in children.

Results

Among the cohort of mothers diagnosed with a mood/anxiety disorder during pregnancy or up to 90 days before, 16.8% received at least two dispensations of an SSRI or SNRI during pregnancy. We did not observe an association between use of SSRIs/SNRIs during pregnancy and increased risk of Autism Spectrum Disorder (hazard ratio 0.92; 95% CI 0.42 to 2.03), epilepsy (hazard ratio 1.21; 95% CI 0.48 to 3.05), or ADHD (hazard ratio 1.13, 95% CI 0.78 to 1.64) among offspring.

