Early Neurological Outcome of Young Infants Exposed to Selective Serotonin Reuptake Inhibitors during Pregnancy: Results from the Observational SMOK Study

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Abstract

Background: Use of selective serotonin reuptake inhibitors (SSRI) during pregnancy is common while the effect on the infant’s neurological outcome is unknown. Our objective was to determine the effects of prenatal SSRI-exposure on the infants’ neurological functioning, adjusted for maternal mental health.

Methods: A prospective observational study from May 2007 to April 2010. The study groups comprised 63 SSRI-exposed infants (SSRI group) and 44 non-exposed infants (non-SSRI group). Maternal depression and anxiety were measured using questionnaires. The main outcome measures during the first week after birth and at three to four months were the quality of the infants’ general movements (GMs) according to Prechtl and a detailed motor optimality score. We calculated odds ratios (ORs) and 95% confidence intervals (CIs) for abnormal GM quality in the SSRI and non-SSRI groups, and adjusted for maternal depression, anxiety, and other confounders. The study was registered under 53506435 in the ISRCTN.

Findings: All infants were born around term. During the first week, abnormal GMs occurred more frequently in the SSRI group than in the non-SSRI group (59% versus 33%) and the median MOS was lower (13 versus 18). The OR for abnormal GMs in the SSRI versus the non-SSRI group was 3?0 (95% CI, 1.3 to 6.9) and increased after adjustment for confounders. At three to four months, more SSRI-exposed infants had monotonous movements (48% versus 20%) with lower median MOSs (26 versus 28). The OR for monotonous movements was 3?5 (95% CI, 1.5 to 8.6) and increased after adjusting for confounders.

Interpretation: Prenatal exposure to SSRI had an adverse effect on early neurological functioning as reflected by GM quality, irrespective of maternal depression and anxiety, and other confounders. Physicians should take this into account in consultation with parents.

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