

Public release date: 24-Aug-2006

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John Wiley & Sons, Inc.

Non-steroidal anti-inflammatory drugs (NSAIDs) and congenital anomalies

First trimester use of NSAIDs is associated with cardiac abnormalities in babies

Women who take non-steroidal anti-inflammatory drugs (NSAIDs) early in their pregnancies may be more likely to give birth to babies with congenital defects, particularly cardiac septal defects. These are the findings of a case-control study published in the August issue of Birth Defects Research Part B, a journal published by John Wiley & Sons. The article is also available online via Wiley Interscience (www.interscience.wiley.com/journal/bdrb).

Many pregnant women get prescriptions for NSAIDs during their first trimester, and even more--up to 15 percent--take over-the-counter versions of these drugs. Previous studies have shown that taking NSAIDs toward the end of a pregnancy can cause certain circulatory problems--premature closure of the ductus arteriosus and patent ductus arteriosus, but the risks related to early-pregnancy ingestion are less well defined.

To better understand the relationship between first trimester use of NSAIDs and congenital birth defects, researchers led by Anick Berard, Ph.D. of St. Justine Hospital in Montreal, conducted a population-based case-control study. They gathered information from three administrative databases in Quebec and included 36,387 pregnant women in their study. They determined which women had filled prescriptions for NSAIDs during their first trimester and which had babies diagnosed with a congenital abnormality in the first year of life. Based on information from previous studies, the primary outcome of interest was cardiac septal closure and related abnormalities.

For each infant diagnosed with a congenital abnormality, the researchers matched up to ten controls by date of conception and maternal age, region of residence, and diabetes status. They performed statistical analyses to uncover any associations between the congenital abnormalities and the mother's use of NSAIDs during the first trimester.

Among the 1056 women who filled a prescription for NSAIDs early in their pregnancy, 8.8 percent had babies with congenital anomalies. Of the 35,331 women who did not fill prescriptions for NSAIDs, 7 percent had congenital anomalies. The difference was more pronounced for cardiac septal abnormalities. Furthermore, the proportion of infants with multiple congenital anomalies among mothers who filled an NSAID prescription in the first trimester and those who did not was 16.1 percent vs. 14.2 percent respectively.

"Our analysis of data from the Medication and Pregnancy registry suggests that women who fill prescriptions for NSAIDs in the first trimester of pregnancy may be at greater risk of having children with congenital anomalies, particularly those related to cardiac septal closure," the authors conclude. "This is in accordance with previous findings, but needs to be replicated in other study populations."

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Article: "Risk of Congenital Anomalies in Pregnant Users of Non-Steroidal Anti-Inflammatory Drugs: A nested case-control study." Ofori, Benjamin; Oraichi, Driss; Blais, Lucie; Rey, Evelyne; Berard, Anick.. Birth Defects Research Part B. August 2006; (DOI: 10.1002/bdrb.20085).
