Miscarriage and NSAID Use

July 11, 2014
By OBGYN.net Staff [1]

In general, NSAID use in pregnancy does not increase the risk of miscarriage, research confirms. Indomethacin, however, is an outlier. Find out why.

Non-steroidal anti-inflammatory drugs do not increase the risk of miscarriage, according to a recently published study.

Researchers looked at 65,457 women in Israel who conceived between January 2003 and December 2009. Of the pregnancies included, 10% resulted in a spontaneous abortion. The results of the study were published in the Canadian Medical Association Journal in March. Just 7% of the women included in the study were exposed to the anti-inflammatory medications, and the authors found that exposure was not an independent risk factor for spontaneous abortion (nonselective cyclooxygenase inhibitors: adjusted hazard ratio 1.10, 95% confidence interval 0.99-1.22).

Pertinent Points
- Women who took OTC anti-inflammatory drugs during pregnancy did not have an increase risk of miscarriage.
- The only NSAID to lead to an increased risk was indomethacin, but the finding could be explained because of the likelihood of the drug being given during preterm labor.
- More research is needed to evaluate the risk following the use of selective COX-2 inhibitors...

An increased risk of miscarriage was found in the unadjusted analysis of exposure to COX-2 inhibitors, but the risk was not statistically significant after the multivariate analysis was conducted. With only 71 women exposed to COX-2 inhibitors, the small population made it hard to draw strong conclusions. The authors suggested further research is needed to assess the risk following exposure to selective COX-2 inhibitors, such as celecoxib and rofecoxib. The only drug to show an increased risk was indomethacin (adjusted HR 2.8, 95% CI 1.70-4.69). But the authors said the finding could be explained by a reverse causation bias, since indomethacin is used to treat preterm labor. The study adjusted for maternal age, diabetes mellitus, hypothyroidism, obesity, hypercoagulation or inflammatory conditions, recurrent miscarriage, in vitro fertilization of the current pregnancy, intrauterine contraceptive device, ethnic background, tobacco use, and year of admission.


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