Review of: "Adverse Effect of Diclofenac Exposure during Pregnancy on Mother and Fetus; A Systematic Review"

Margarita Gromova[1]

1 Russian Medical Society

Potential competing interests: The author(s) declared that no potential competing interests exist.

Diclofenac, as a representative of non-steroidal anti-inflammatory drugs (NSAIDs), is widely used in clinical practice. Pregnant women also use NSAIDs quite often - both on prescription and on their own. However, information on the safety of their use in this category of patients in the literature is limited. The aim of this study was to systematically evaluate the effects of diclofenac on mother and fetus during pregnancy. I found this topic interesting and important in terms of coverage. On the other hand, I have some recommendations.

At the beginning of the introduction, it is better to give a broader indication for use: "Since 1974, Diclofenac has been used to treat pain and inflammation associated with arthritis, arthrosis and osteoporosis."

In terms of terminology, the word rheumatism is outdated. In modern medical literature, this term has been superseded by the generally accepted worldwide "acute rheumatic fever", due to the contradictory understanding of the term.

The list of references is too short for a systematic review. It is possible to expand information on the side effects of diclofenac to include additional human studies. I found the data to be interesting. When analyzing data from the Swedish Birth Registry, the overall incidence of malformations was not increased in the children of 2557 women who took NSAIDs during the first 10-12 weeks of pregnancy (Ericson A., Kallen B. A. Nonsteroidal anti-inflammatory drugs in early pregnancy // Reproductive Toxicology. — 2001; 15: 371–375). At the same time, 574 of them took diclofenac. The frequency of heart defects in women who received NSAIDs in early pregnancy was higher than expected. Rates of cardiac defects were similar in children whose mothers took diclofenac and other drugs in this class. Documented cases of premature closure of the ductus arteriosus after the mother took diclofenac in the last month of pregnancy, diagnosed during intrauterine echocardiography (Rein A. J., Nadjari M., Elchalal U. et al. Contraction of the fetal ductus arteriosus induced by diclofenac. Case report // Fetal. Diagn. Ther. — 1999; 14 (1): 24–25). At week 37, fetal echocardiography of a mother treated with diclofenac from week 35 revealed right atrial dilatation with moderate tricuspid regurgitation, pulmonary valve insufficiency, and complete closure of the ductus arteriosus. Doctors performed an emergency caesarean section, which resulted in a healthy baby (Auer M., Brezinka C., Eller P. et al. Prenatal diagnosis of intrauterine premature closure of the ductus arteriosus following maternal diclofenac application // Ultrasound Obstet. Gynecol. — 2004; 23 (5): 513–516). In 2004, one case of severe pulmonary hypertension was described in a newborn exposed to diclofenac in utero (Siu K. L., Lee W. H. Maternal diclofenac sodium ingestion and severe neonatal pulmonary hypertension // J. Paediatr. Child. Health. — 2004; 40 (3): 152–153). Mother from the 38th week of gestation was prescribed diclofenac (25 mg 3 times a day for 3 days) to treat a cold. After completion of the prescribed course, fetal bradycardia was recorded. Made immediate delivery by caesarean section. A boy was born weighing 3400 g, without

edema, but cyanotic, with a syndrome of respiratory disorders; needed mechanical ventilation. The echocardiogram showed persistent severe pulmonary hypertension and transient right-sided hypertrophic cardiomyopathy caused by premature closure of the ductus arteriosus. By the age of 40 days, pulmonary hypertension had resolved and right ventricular hypertrophy was markedly reduced.

Looking forward to further research on this topic.