Study ties autism risk to prenatal exposure to asthma drugs

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(HealthDay)—Children whose mothers took certain asthma drugs during

pregnancy may have a slightly increased risk of autism, a new study suggests.

The study, published online Jan. 6 in *Pediatrics*, found a connection between autism risk and prenatal exposure to drugs called beta-agonists. They are most often used to control asthma, and include inhaled medications such as albuterol, salmeterol (Serevent) and formoterol (Foradil).

Researchers said the findings do not prove cause and effect, and stressed that women with asthma should not simply abandon their medication during pregnancy.

"Uncontrolled asthma in pregnancy has been associated with poor birth outcomes, such as preterm birth, low birth weight and admission to the neonatal intensive care unit," said lead researcher Nicole Gidaya, of Drexel University, in Philadelphia.

What's more, preterm delivery and low birth weight have been tied to an increased autism risk.

Geraldine Dawson, director of the Duke Center for Autism and Brain Development at Duke University, in Durham, N.C., made the same point.

Taking beta-agonists during pregnancy has both potential benefits and potential risks for the developing fetus, said Dawson, who wrote an editorial published with the study.

"It's important for a woman taking these drugs to talk with her physician and make an individual decision based on her unique circumstances," Dawson said.

Researchers are still trying to understand the precise causes of autism spectrum disorders, which affect an estimated one in 68 children in the United States, according to the U.S. Centers for Disease Control and Prevention.

Beta-agonists come in both short-acting forms—which are used to treat asthma attacks—and long-acting forms, which are taken regularly to help prevent attacks. Gidaya said her study did not differentiate between the two.

Scientists generally agree, though, that autism arises from a combination of genetic vulnerability and certain environmental exposures. Many genes have been linked to autism risk, and the list of environmental suspects is growing.

Birth complications—especially ones that cause oxygen deprivation—are among them, according to the advocacy group Autism Speaks. So are prenatal exposures to certain infections, air pollution and some medications, such as the anti-seizure drug valproic acid, the group said.

According to Gidaya, it's plausible that beta-agonists could affect fetal brain development in a way that raises the risk of autism. Given to pregnant lab rats, the drugs can affect fetal nerve cell development.

For the new study, Gidaya's team combed through Denmark's system of national databases to find information on 5,200 children diagnosed with an autism spectrum disorder. The researchers compared them with 52,000 children of the same age without autism.

Overall, just under 4 percent of children with autism had been exposed to a beta-agonist, versus just under 3 percent of other kids.

When the researchers controlled for other factors—including mothers'

asthma, parents' age and birth complications—children exposed to beta-agonists in the womb were still 30 percent more likely to develop autism.

But while that number might sound big, it is actually a "modest" increase in autism risk, Dawson said.

Plus, there are other factors the researchers could not account for, such as exposure to pollutants, Gidaya said.

According to Dawson, more research is needed to confirm the link between beta-agonists and autism.

If the drugs are a risk factor, Gidaya said, studying the biology behind it could help researchers gain a better understanding of how autism arises.

More information: Autism Speaks has more on environmental risk factors for autism.