

Pregnant Women Often Cut Back on Their Asthma Meds

BY KATE JOHNSON
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SAN ANTONIO — Pregnant women with asthma take less asthma medication than do nonpregnant women with asthma, according to a new study that did not measure the effect of the medication reduction.

"Whether they stopped taking their medications because their symptoms improved, or whether they were reluctant to take their medications, we don't know," lead investigator Ami Degala, M.D., told this newspaper.

Research shows that among women with asthma, about one-third get better during pregnancy. In addition, asthma symptoms worsen in one-third and remain the same in another third. But physicians and pregnant women alike are often conservative with asthma medication during pregnancy to avoid overexposing the fetus, said Dr. Degala, a fellow in allergy and clinical immunology at Henry Ford Hospital in Detroit.

In her study, which was presented as a poster at the annual meeting of the American Academy of Asthma, Allergy, and Immunology, the asthma medication refill habits of 240 women with asthma were observed for a 1-year surveillance period.

After this time, the refill habits of 80 women who became pregnant were compared during the last two trimesters to the refill habits of 160 nonpregnant participants who were assigned matched delivery dates.

Among women who did not take their controller medication during the surveillance period, only 9% started taking the medication when they became pregnant, compared with 22% of the nonpregnant controls during this same period. And 25% of the pregnant women used their rescue medication, compared with 59% of the control group.

A similar pattern was seen among women who did take their controller medication during the surveillance period, with only 33% of pregnant women continuing their controller medications, compared with 59% of controls, and 52% of pregnant women continuing their rescue medications, compared with 62% of controls.

Overall, there was a statistically significant difference between pregnant women and controls in the reduction in medication between the surveillance and pregnancy periods. Medication refills were reduced by 43% in pregnant women over this period, while they were reduced by 15% in controls.

Although there is evidence that oral corticosteroids can have adverse effects on the fetus, there is no such evidence for β -agonists, inhaled corticosteroids, or even theophylline, Dr. Degala said.

In contrast, there is evidence of both fetal and maternal risks in undertreating asthma.

"There's a risk of fetal and maternal hypoxia, and studies also show an increased risk of perinatal mortality and low birthweight," she said. ■

MRI Appears Safe, Effective for Acute Abdominal Pain in Pregnancy

Magnetic resonance imaging is an effective means of diagnosing acute abdominal and pelvic pain in pregnant patients, and it avoids fetal exposure to the radiation of a computerized axial tomography exam, Katherine Birchard, M.D., and her colleagues have reported.

Although there have been no documented cases of MRI causing adverse effects to the fetus, MRI scans should be used in pregnant patients only when the benefits clearly outweigh the risks, the researchers said. "However, we should stress that the single greatest factor in morbidity and mortality of the pregnant patient is delay in diagnosis," reported Dr. Birchard of the University of North Carolina, and associates (*AJR Am. J. Roentgenol.* 2005;184:452-8).

The researchers retrospectively analyzed all MRI studies of 29 pregnant patients referred to their facility from 2002 to 2004 for evaluation of acute abdominal or pelvic pain. The patients' mean age was 25 years (18-35 years), and mean gestational age was 23 weeks (10-36 weeks). Most of the patients (22) did not have gadolinium administered.

Every patient underwent fetal sonography before any other imaging. Six also underwent complete abdominal sonograph-

ic examination before the MRI, which was the imaging exam used in 23 patients.

MRI identified appendiceal abscess (1 case), appendicitis (2 cases), intraabdominal and rectus muscle abscess (1), pancreatitis (1), and ulcerative colitis (1). MRI also showed Crohn's disease with diffuse peritoneal inflammation (1), intussusception (1), bilateral adrenal hemorrhage (1), pyelonephritis (2), hydronephrosis (1), uterine fibroid degeneration (2), degeneration and torsion of a subserosal uterine fibroid (1), simple ovarian cysts (1), and ovarian torsion (1). The other 12 examinations were normal.

The MRI results were congruent with follow-up medical records in 28 of the 29 patients and accurately described the disease process in all except one patient. This patient was at 18 weeks' gestation and complained of acute right lower quadrant pain. The MRI identified multiple ovarian cysts, but a laparoscopy 1 month later showed a torsed right ovary with multiple cysts. When examined retrospectively, the MRI did not show this finding.

"We believe this is due to the fact that the ovary was largely cystic, and therefore, edematous tissue was not seen," the researchers said.

—Michele G. Sullivan

DRUGS, PREGNANCY, AND LACTATION

New Asthma Treatment Guidelines

The 2004 asthma treatment guidelines for pregnant women, issued by the National Asthma Education and Prevention Program in January, meet a great need for guidance in this area. The guidelines, which also include a table on the stepwise approach to managing asthma in pregnancy, are the first to be issued on treating asthma in pregnant women in more than 10 years.

A better understanding of the inflammatory nature of the disease has promoted a major shift in therapy. Anti-inflammatory medications, most notably corticosteroids, and mast cell stabilizers (leukotriene inhibitors) are now the first-line treatments. Theophylline is rarely used today to treat asthma, but the guidelines say that at recommended doses it has proved safe in pregnancy.

The authors of the document, a multidisciplinary expert panel, systematically reviewed available evidence on asthma treatment in pregnancy. Some of the key findings are:

- ▶ Inhaled corticosteroids can reduce the risk of asthma exacerbations and improve lung function. There is no evidence linking them to increases in congenital malformations or other adverse outcomes. When taken through the inhaled route, systemic exposure is much less than with oral corticosteroids. Budesonide has the most data backing its safety in pregnancy, making it the "preferred inhaled corticosteroid," the guidelines state. But the document notes that there are no data indicating the other agents are unsafe in pregnancy.

- ▶ Oral corticosteroids may be necessary for treating women with severe asthma. There are conflicting data on their safety in pregnancy, but they may be warranted in women with severe disease, according to the guidelines. In the general population, there is an association between use of oral corticosteroids in the first trimester and an increased risk for cleft lip and/or palate, compared with nonuse (0.3% vs. 0.1%), but not many asthmatic pregnant women have been included in these studies.

This risk for oral cleft has been shown in animals and in humans. Our Motherisk Program systematically reviewed studies and found a two- to threefold increase in oral cleft (with first-trimester exposure), which probably is not the case for inhaled steroids because the systemic dose is much smaller. Clearly, patients who are prescribed oral corticosteroids in the first trimester should be informed of this risk.

During the second and third trimester, oral steroids cannot cause malformations. But there are studies, which do not include patients with asthma, indicating that systemic exposure to corticosteroids may be associ-

ated with some CNS damage in babies. Most of these data were from studies of premature infants whose mothers received corticosteroids to enhance lung maturation.

There is evidence that repeating the dose of corticosteroids more than once may increase the risk of adverse brain outcome in premature babies. Although this evidence is not yet conclusive, it is fair to say that if a woman needs high-dose corticosteroids late in pregnancy, such a possibility should be discussed with her before prescribing these agents.

- ▶ The short-acting β_2 -agonist albuterol is the preferred drug in this class for treating acute symptoms, and the available data on the safety of β_2 -agonists are reassuring, the guidelines say. Albuterol has been studied in many millions of patients worldwide and in thousands of pregnant women, and there is no

indication whatsoever that it has any teratogenic effects. Since it is inhaled, systemic exposure is not great.

- ▶ For women with persistent asthma who are not well controlled on low-dose inhaled corticosteroids, increasing the dose or adding a long-acting β -agonist is recommended, but there are not enough data indicating which approach is preferable, according to the guidelines. It is fair to say that β -agonists have not been shown to be teratogenic, and I agree with the panel that there is no reason to prefer one treatment option over the other.

- ▶ Cromolyn, used as a preventive treatment, appears to be safe, based on available evidence, the guidelines state.

- ▶ Leukotriene modifiers, the document notes, have "minimal" data on their use in pregnancy, but there are some reassuring animal data. We at Motherisk are prospectively collecting information on cases of pregnant women exposed to these drugs, and so far, they do not appear to be major teratogens.

I would also add that since asthma is often accompanied by allergy, effective management of allergic symptoms can prevent asthmatic attacks in many cases. H1 blockers are safe in pregnancy.

A copy of the guidelines can be found at www.nhlbi.nih.gov/health/ prof/lung/asthma/astpreg.htm.

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