

Gastroschisis & Medications

Over-the-counter medications—are they safe during pregnancy? This study by the California Birth Defects Monitoring Program investigates a possible link between pain relievers/decongestants and the birth defect gastroschisis.

Mothers were asked about medications—both prescription and nonprescription—taken during the first 3 months of pregnancy. Responses of mothers whose babies had gastroschisis were compared to those of mothers whose babies had no birth defects.

ASPIRIN, IBUPROFEN INCREASED RISK

Mothers who took either aspirin or ibuprofen were 4 times as likely to have babies with gastroschisis. 1.4% of mothers of normal infants used aspirin in the first trimester compared to 6.4% of mothers of babies with gastroschisis. And 1.4% of mothers of normal infants took ibuprofen compared to 5.5% of those whose babies had gastroschisis.

ACETAMINOPHEN DID NOT RAISE RISK

The pain reliever acetaminophen was the most commonly used medication in pregnancy, taken by 25% of mothers interviewed. Taking acetaminophen did not increase gastroschisis risk.

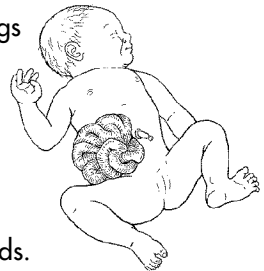
DECONGESTANTS ALSO RAISED RISK

Taking decongestants doubled the risk for having a baby with gastroschisis. Higher risks were seen for both of the most commonly used decongestants, pseudoephedrine and phenylpropanolamine.

11.8% of mothers of infants with gastroschisis took decongestants compared to 5.5% of other mothers.

GASTROSCHISIS

- Young mothers are 4 times as likely as women in their late 20s to have babies with gastroschisis, (pronounced gas-tro-SKEE-sis). Seen in 1 in 4500 California births, about 130 affected infants are born each year, one third of them to teens.
- Newborns with gastroschisis—where intestines protrude through a hole in the abdomen—die without immediate corrective surgery and intensive hospital care. Medical costs average \$44,000.
- The defect occurs 5-8 weeks after conception, most likely due to a disruption of the blood supply to the developing abdominal wall.
- Using cocaine or other drugs during pregnancy increases risk more than 4 times. Mothers whose infants have gastroschisis are more likely to come from disadvantaged backgrounds.



OTHER MEDICAL CONSIDERATIONS

- **Illnesses**—including chronic conditions such as diabetes—were not linked to gastroschisis risk. Fever did not raise risk either. The extra risk found with various medications was not due to mothers' reasons for taking them.
- **Antibiotics and antinauseants** did not increase the risk for gastroschisis.
- **X-rays** doubled the risk for gastroschisis. The study included x-rays performed during the 3 months before or the 3 months after conception. Most were dental x-rays, unlikely to have a direct effect on the fetus; the extra risk may stem from other exposures found in dental procedures.

UNDERSTANDING GASTROSCHISIS

Vasoconstrictors—substances that reduce blood flow—have long been suspected as a possible cause of gastroschisis. Aspirin, ibuprofen, and decongestants are all known to alter blood circulation. Smaller interview studies have suggested links between gastroschisis and both aspirin and decongestants.

Taking any medication involves weighing risks and benefits. This study underscores the advice already given to expectant mothers: *Always consult your health care provider before using any medication—including those sold over the counter.* Read labels carefully: many products contain combinations of ingredients.

POPULATION-BASED STUDY DESIGN

All cases were identified through ongoing surveillance by the California Birth Defects Monitoring Program registry, a population-based, actively ascertained database on children with birth defects. Specific study elements follow:

- **Participants:** 110 mothers of infants with gastroschisis and 220 mothers of the same ages whose infants did not have birth defects. All babies were born between 1988-1990. Only White or Latina women were included because there were few cases in other racial/ethnic groups.
- **Interview:** Conducted in the mother's home by a trained interviewer, in English or Spanish, 3-6 months after the baby's birth. The 2.5-hour structured questionnaire asked about the mother's pregnancy, diet, health, drug use, occupation, hobbies, and demographics as well as about the baby's father and grandparents.
- **Diagnostic information:** Abstracted from hospital medical records and reviewed by a geneticist to ensure correct classification.

*REFERENCE: Torfs CP, Katz EA, Bateson TF, Lam PK, Curry CJR. Maternal medications and environmental exposures as risk factors for gastroschisis. **Teratology** 1996;54:84-92.*

The California Birth Defects Monitoring Program—a public health program devoted to finding causes of birth defects—is funded through the California Department of Health Services and jointly operated with the March of Dimes Birth Defects Foundation.