

New syndrome may be affecting babies exposed to fentanyl

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Doctors report they are seeing what they think is a new syndrome in babies who are exposed to fentanyl while in the womb.

All of the infants have cleft palates and unusually small heads, and all were born to mothers who said they'd used fentanyl and other drugs

while pregnant.

Six babies were first identified at Nemours Children's Health in Wilmington, Del., two in California and one each in Massachusetts and Rhode Island. Erin Wadman, a genetic counselor at Nemours, and her colleagues reported on the infants recently in the journal [Genetics in Medicine Open](#).

The discovery of a possibly novel syndrome came in August 2022, when Wadman consulted in the case of a baby who'd been born with birth defects.

"I was sitting there in the appointment, and I was just like, this face looks so familiar. This story sounds so familiar. And I was just thinking about how this patient reminded me so much of a patient I'd seen earlier in the year and then other patients I'd seen," Wadman told *NBC News*. "That's when we were like we think we might have stumbled on something really big here."

The 10 infants also had unusually small bodies and tended to have drooping eyelids. Their noses typically turned upward, and their lower jaws were often undersized, the researchers said. Their feet pointed down and inward, and two of their middle toes were webbed. Baby boys had genital irregularities. Some had trouble feeding, and their thumbs weren't fully formed.

Wadman and her colleagues first thought of a syndrome called [Smith-Lemli-Opitz](#), in which [genetic mutations](#) affect how fetuses process cholesterol.

None of the babies were found to have the the variant, so doctors began to wonder if fentanyl may be causing similar disruptions to [cholesterol metabolism](#) during pregnancy.

"Although fentanyl's effect on cholesterol metabolism has not been directly tested, based on indirect evidence, it is biologically plausible that it affects cholesterol metabolism in the [developing fetus](#)," the authors wrote in the new report.

Still, Wadman said much more work is needed to confirm the findings.

Experts agreed more research is critical.

The women in the study were "...taking many drugs," Dr. Nora Volkow, director of the National Institute on Drug Abuse, told *NBC News*. "It's very hard to determine is this just the effect of fentanyl or is this really the effects of other drugs or other combinations?"

"Having said that, reports like this one are very important, because they shed light on issues that we need to systematically investigate," Volkow added.

The fentanyl-cholesterol theory will also be explored by researchers from the University of Nebraska Medical Center (UNMC), *NBC News* reported.

Dr. Karoly Mirnics, director of UNMC's Munroe-Meyer Institute, told *NBC News* she has dedicated research to studying the impact of a variety of drugs on cholesterol metabolism.

Cholesterol is "essential for everything in your body, for every [cell membrane](#), for every function," Mirnics explained. "If there is no [cholesterol](#), there is no life."

Mirnics plans to study the blood of the [babies](#) identified at Nemours and elsewhere.

"This is concerning," March of Dimes President [Dr. Elizabeth Cherot](#) told *NBC News*. "As we see these shared characteristics identified, we may be unroofing a real syndrome."

Dr. Sonja Rasmussen, a medical geneticist at Johns Hopkins School of Medicine in Baltimore, praised the "astute clinicians" at Nemours for noticing what could be an important trend.

"That's how [fetal alcohol syndrome](#) was recognized. That is how isotretinoin [acne drug Accutane] that causes a distinct pattern of [birth defects](#) was recognized," said Rasmussen, one of the first to describe the defects associated with Zika virus while she was at the U.S. Centers for Disease Control and Prevention.

More information: Visit the CDC for more on [birth defects](#).

Erin Wadman et al, A novel syndrome associated with prenatal fentanyl exposure, *Genetics in Medicine Open* (2023). DOI: [10.1016/j.gimo.2023.100834](https://doi.org/10.1016/j.gimo.2023.100834)

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