

Clinical Pearl: Fentanyl Exposure Syndrome

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Fentanyl Exposure May Be Linked to a Novel Syndrome. Physicians say there may be a novel genetic syndrome among infants born to mothers who use fentanyl after a group of babies was found to have physical features such as cleft palate, small head and body size, drooping eyelids, undersized lower jaws, foot abnormalities, malformed thumbs, and male genital irregularities. Genetic counselor Erin Wadman and colleagues reported on the potential syndrome in the journal *Genetics in Medicine Open*, and researchers say more research is needed to establish if there is a connection.

Full Story: [HealthDay News](#) (12/5) (1)

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There has been so much discussion about a substance use disorder with exposure to fentanyl in different forms, such as fentanyl patches, that I was not surprised when I was reviewing today's summaries of the literature for ideas for writing this month's Clinical

cal Pearl for *Neonatology Today* and I came across a summary of an article of a novel syndrome in newborn infants who have been exposed to fentanyl prenatally (2).

This group of 10 newborns included six babies from Nemours Children's Hospital from Wilmington, DE, and another four newborns from other centers around the country, including one from Loma Linda (1). The six newborns were microcephalic, growth restricted (short stature), and had several congenital malformations, including cleft palate, talipes equinovarus or rocker bottom feet, and hypospadias or a chordee (2). They also had broad thumbs, single palmar crease, and a mild 2,3 toe syndactyly (2). For the five with magnetic resonance imaging, a hypoplastic corpus callosum was also evident in 3 of 5 babies (2). Of the ten newborns, 7 had exome sequencing, all considered non-diagnostic (2).

“Interestingly, this group's growth and physical features were suggestive of Smith-Lemli-Opitz Syndrome but not diagnostic (2). Because of these similarities, biochemical metabolic studies of cholesterol metabolism (7-DHC or 8-DHC) were performed and were considered elevated initially in 7 of 8 patients, then normalized in follow-up studies in 6 of 6 babies (2).”

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These clinical findings in this group of newborns whose mothers had used fentanyl and other opioid substances prenatally, but especially fentanyl, were evaluated by geneticists and felt to be consistent with a new syndrome secondary to prenatal fentanyl exposure (1). The authors also discussed the importance of further studies to confirm this new syndrome.

References:

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1. <https://www.healthday.com/health-news/child-health/new-syndrome-may-be-affecting-babies-exposed-to-fentanyl/>
2. Wadman E, Fernandes E, Muss C, et al. A novel syndrome associated with prenatal fentanyl exposure. *Genetics in Medicine Open* 2023;1,100834.

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