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## ANTIBIOTICS ADMINISTERED BEFORE CESAREAN HAVE MINIMAL IMPACT ON INFANT GUT MICROBIOME

**A**ntibiotics given to patients before a **cesarean section** have a limited effect on the diversity of the infant's gut microbiome, according to a report in *Cell Host & Microbe*.

In a randomized study conducted in the Netherlands, researchers found that antibiotics administered pre-incision for the prevention of maternal infections and neonatal sepsis minimally affected bacterial **strain** variability or the selection of antibiotic resistance genes in infants. The infant's feeding method had the most significant impact on the infant's microbiota.

Administering antibiotics 20 minutes before incision is widely recommended and has been shown to reduce the maternal risk of infection, but few studies have examined the impact on the infant's gut flora.

Since mothers often wonder if the antibiotics they take affect their babies, this study aimed to confirm the minimal effects on the infant's gut environment.

The study enrolled 28 mother-infant pairs, with 12 mothers receiving antibiotics before the incision

and 16 receiving them after clamping the umbilical cord (a common practice before 2015 to avoid newborn exposure to antibiotics). In 2015, the World Health Organization recommended administering antibiotics before **incision**.

Analysis of 172 fecal **microbiome** samples from infants collected at 8 postnatal time points, along with data from 79 infants from two similar studies, found no statistically significant differences between the two groups in terms of bacterial diversity.

Differences in bacterial strains and the load of antibiotic resistance genes in infants born to mothers who received antibiotics before incision were very small.

Feeding method was associated with a 12% variation in the composition of the infant's gut microbiome and also had a significant effect on the composition of bile acids in babies.

These findings should be validated in larger-scale studies, and further investigations are needed into the long-term health implications for pregnant women and infants.

*Adapted after Chris Dall, 15 August 2024*

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