

Expert reviews novel studies on impact of vaginal versus C-section delivery on infant health

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In a review article published in *EMBO Reports*, Dr. Kjersti Aagaard, associate professor of obstetrics and gynecology at Baylor College of Medicine, and her colleagues Derrick Chu and Dr. Christopher Stewart focus on other investigators previous studies' which might suggest disease risks infants face when alternately delivered via Cesarean.

"There has been increasing press and popular media coverage suggesting that when compared to their counterparts born vaginally, babies born via Cesarean experience more long term health risks (primarily obesity and allergic diseases, such as asthma). The story continues that this may be due to an altered early microbiome, which occurs as a result of a Cesarean delivery. However, when we dug into the literature in greater detail, we found that other investigators were not seeing a strong difference in the early microbiomes of Cesarean and vaginally delivered infants. In fact, the data appeared to be pretty mixed. While some small studies showed a difference, other larger studies did not," Aagaard said.

The question was why?

In order to examine this issue in more detail, Aagaard and her colleagues did two things. First, they put on their clinical hats (Aagaard is a maternal-fetal medicine specialist at Baylor and Texas Children's Hospital) and they asked whether it was possible that the indication (or the underlying reason why) a Cesarean was being performed was often

being ignored in some of the other investigators research. Instead, they found examples where the analysis on the babies' microbiomes focused merely on whether the surgery did or did not occur. Second, they put on our scientific hats and took a detailed look at two of the landmark studies in the vaginal versus Cesarean microbiome debate. In the current review in *EMBO Reports*, they reflect on their findings.

"We do not question that the persistent rate of Cesarean deliveries in the U.S. is concerning, and needs to be tackled for many good reasons," said Aagaard. "Certainly risks to the mom with repeat surgeries are well documented, and we support our own clinical practice goals of reducing the overall numbers of Cesarean deliveries through best practice guidelines, including support for vaginal births after Cesarean. However, the presumable longer-term impact of Cesarean deliveries on the infant microbiome has been publicized widely, both in scientific circles and among other interested communities."

"In this publication, we wanted to explore the available literature with a critical and objective eye. This is an extremely important exercise of scientific review to ensure that clinical practice is not reflexively changed without wider-spread clinical research of seemingly exciting and novel science," she said.

More information: Kjersti Aagaard et al. Una destinatio, viae diversae, *EMBO reports* (2016). DOI: [10.15252/embr.201643483](https://doi.org/10.15252/embr.201643483)

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