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C-Section Babies Get Mom's Germs to Improve Immunity

By Ruth Kava — February 9, 2016

[1]Babies who are born by the normal route pick up healthy bacteria when they pass through their mothers' birth canals. But if a woman undergoes a Cesarean section (C-section), her baby misses out on that benefit.

And some scientists think this may not bode well for the infant, because some data suggest that babies born by C-section are more likely to develop Type-1 diabetes and other immune disorders, as well as metabolic problems. So to deal with this potential problem, some researchers investigated whether it might be possible to remedy the situation.

Dr. Maria G. Dominguez-Bello from the New York University School of Medicine, and colleagues from several institutions, tested [2] whether it would be feasible to transfer microbes from the mother's vaginal tract during or just after a C-section delivery to the infant. The next step would then be to determine if such a transfer was made, would the microbes then colonize the baby as if it had been born by the vaginal route?

In a pilot study [3], the researchers studied the microbiomes of 18 infants. Seven were born vaginally and the other 11 via C-section. Of the latter group, within two minutes of birth, four were swabbed with a piece of gauze that had been in the mother's vagina for an hour before surgery on their lips, faces, chests, arms, legs, backs, genitals and anal regions. The other seven were not.

Then, for the first month of the infants' lives, the makeup of their microbiome was determined by analyzing swabs from their mouths, skin and anal regions. These samples were then compared to the microbial samples taken from their mothers' vaginas.

The findings: after the first few days, the swabbed infants' bacteria did resemble those from vaginally-delivered babies. The bacteria in the babies' GI tracts were less abundant in the C-section infants (both groups) than in the vaginally-delivered ones. By the end of the first month, the oral and skin bacteria of all the babies became more and more like those of adults. However, those in the GI tract did not possibly because they were only consuming breast milk or formula, suggested [4] one of the authors.

This study is currently being expanded to include many more infants and mothers. And of course, the extent to which such transfers really make a difference to the health of babies delivered by C-section will take years to determine.
