Bottle feeding associated with increased risk of stomach obstruction in infants

October 21 2013

Bottle feeding appears to increase the risk infants will develop hypertrophic pyloric stenosis (HPS), a form of stomach obstruction, and that risk seems to be magnified when mothers are older and have had more than one child, according to a study published by *JAMA Pediatrics*.

HPS typically occurs during an infant's first two months of life and surgery is needed to correct the obstruction, which occurs because of a thickening of the smooth muscle layer of the pylorus (the passage between the stomach and small intestines). Despite how frequently the condition occurs (about 2 cases per 1,000 births), its cause remains unknown, the authors write in the study background.

Jarod P. McAteer, M.D., M.P.H., of the Seattle Children's Hospital, and colleagues used Washington state birth certificates and discharge data to examine births between 2003 and 2009. The study included 714 infants admitted with HPS who had a procedure code for HPS surgery (pyloromyotomy). Study controls were infants without HPS. Breastfeeding status was recorded on Washington state birth certificates for all infants during the study period.

The findings indicate that that the incidence of HPS decreased from 14 per 10,000 births in 2003 to 9 per 10,000 births in 2009. Breastfeeding prevalence increased during that time from 80 percent in 2003 to 94 percent in 2009. Infants who developed HPS were more likely to be bottle fed compared with controls (19.5 percent vs. 9.1 percent). The odds of an infant developing HPS also increased when mothers were 35

years and older and multiparous (having given birth more than once).

"These data suggest that bottle feeding may play a role in HPS etiology, and further investigations may help to elucidate the mechanisms underlying the observed effect modification by age and parity," the study concludes.

In a related editorial, Douglas C. Barnhart, M.D., M.S.P.H., of the Primary Children's Hospital, Salt Lake City, writes: "One thing that one could hope for is to understand the cause of a disease that is among the most common causes for operation in infants. The fact that pyloric stenosis is still described as idiopathic despite its incidence of 2 per 1,000 is disappointing. In this issue of *JAMA Pediatrics*, McAteer and colleagues bring us a step closer to being able to drop idiopathic from hypertrophic pyloric stenosis."

"While the data seem convincing that bottle feeding increases the risk, the reason is not clear," he continues.

"Further understanding of the pathogenesis of hypertrophic pyloric stenosis will come from both basic research and more detailed epidemiologic studies," Barnhart concludes.

More information: *JAMA Pediatr*. Published online October 21, 2013. DOI: 10.1001/jamapediatrics.2013.2857
JAMA Pediatr. Published online October 21, 2013. DOI: 10.1001/jamapediatrics.2013.3899