Vitamin C may head off lung problems in babies born to pregnant smokers

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Pregnant women are advised not to smoke during pregnancy because it can harm the baby's lungs and lead to wheezing and asthma, among other problems. If a woman absolutely can't kick the habit, taking vitamin C during pregnancy may improve her newborn's lung function and prevent wheezing in the first year of life, according to a study to be presented Saturday, May 4, at the Pediatric Academic Societies (PAS) annual meeting in Washington, DC.

"Vitamin C is a simple, safe and inexpensive treatment that may decrease the impact of smoking during pregnancy on childhood respiratory health," said lead author Cynthia T. McEvoy, MD, MCR, FAAP, associate professor of pediatrics at Oregon Health & Science University (OHSU) Doernbecher Children's Hospital.

The study included 159 women who were less than 22 weeks pregnant and were unable to quit smoking. Participants were randomly assigned to take either one 500 milligram capsule of vitamin C or a placebo each day with a prenatal vitamin. Neither the study investigator nor the women knew what was in the capsule they were taking. A group of nonsmoking pregnant women also was studied.

Investigators tested the newborns' pulmonary function at about 48 hours of life. They measured how the newborn breathed in and out, how easily the baby's lungs moved and how big the baby's lungs were. Results showed that babies born to smoking women who took vitamin C had significantly improved lung function at birth compared to babies whose

mothers took a placebo.

The researchers also contacted the parents through the infants' first year of life to document any episodes of wheezing and other respiratory symptoms. They found that infants whose mothers were in the vitamin C group had significantly less wheezing through 1 year of age than the infants whose moms had received the placebo.

Specifically, 21 percent of infants in the vitamin C group had at least one episode of wheezing compared to 40 percent of those in the placebo group and 27 percent of infants born to nonsmokers. In addition, 13 percent of infants whose mothers were randomized to vitamin C needed medication for their wheezing compared to 22 percent of infants in the placebo group and 10 percent in the nonsmoking group.

"Getting women to quit smoking during pregnancy has to be priority one, but this finding provides a way to potentially help the infants born of the roughly 50 percent of pregnant smokers who won't or just can't quit smoking no matter what is tried," said study co-author Eliot Spindel, MD, PhD, senior scientist at the Oregon National Primate Research Center at OHSU.

In addition, the researchers also found that one genetic variant shown to increase the risk of smokers developing cancer and associated with reduced ability to quit smoking and high likelihood of relapse seemed to intensify the harmful effects of maternal smoking on how the baby's lungs formed, Dr. McEvoy said.

"Though the lung function of all babies born to smokers in our study was improved by supplemental vitamin C," she said, "our preliminary data suggest that vitamin C appeared to help those babies at the greatest risk of harm during their development from their mother's smoking in pregnancy."

More information: To view the abstract, "Daily Vitamin C in Pregnant Smoking Women Decreases Wheezing in Their Offspring through One Year of Age: Randomized Trial and Interaction with Maternal Nicotinic Receptor Polymorphisms," go to www.abstracts2view.com/pas/vie … hp?nu=PAS13L1_1165.7

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