

Researcher links diet during pregnancy to reducing breast cancer in offspring

August 11 2011

(Medical Xpress) -- NDSU animal sciences professor Chung S. Park is among the researchers who presented at the Era of Hope scientific conference in Orlando, Fla., Aug. 2-5, hosted by the Department of Defense Breast Cancer Research Program. Research by Park suggests that a pregnant mother's diet containing certain nutrients can potentially reduce the risk of breast cancer in her female offspring.

In his research titled "In Utero Exposure to Dietary Methyl Nutrients and Breast Cancer Risk in [Offspring](#)," Park studied 45 rats that were randomized into two groups. One group served as a control, while the other was fed a methyl-supplemented diet. The pups that were born were separated into groups based on the mother's feeding regime. Females then received a chemical to induce breast cancer and were followed for tumor development. Study results showed offspring whose mothers received a methyl-supplemented diet had decreased tumor incidence and growth than the control group. They also had fewer tumors and fewer tumors that multiplied.

According to Park, augmenting the mother's diet with lipotropic nutrients (methionine, choline, folate and vitamin B12) may boost methyl metabolism. This, in turn, may stimulate full development of the mammary gland to induce an epigenetic imprint in the mammary gland of the fetus, decreasing its breast cancer risk.

"The conclusions of this study suggest we may be able to prevent the development of breast cancer in daughters of women at risk for [breast](#)

[cancer](#) by supplementing the mother's [diet](#) during pregnancy," said Park. "We look forward to exploring this study further to strengthen the implications of these initial findings."

Park's research interests include the nutritional regulation of animal growth, mammary development, lactation and mammary tumorigenesis. He earned his doctoral degree in nutritional physiology from Virginia Polytechnic and State University, a master's degree in ruminant nutrition from the University of Georgia and a bachelor's degree in animal science from Seoul National University, Korea.

More information: More information is available at cdmrpcures.org/ocs/index.php/eoh/eoh2011

Provided by North Dakota State University

Citation: Researcher links diet during pregnancy to reducing breast cancer in offspring (2011, August 11) retrieved 19 November 2023 from <https://medicalxpress.com/news/2011-08-links-diet-pregnancy-breast-cancer.html>

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