

Pregnancy hormone hCG protects against breast cancer even in short-term treatments

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One of the most effective ways to prevent breast cancer is through a full-term pregnancy at an early age. Studies out of Fox Chase Cancer Center have linked this protective effect to the presence of human chorionic gonadotropin (hCG), a hormone produced by the placenta to maintain the early stages of pregnancy. Their findings in an animal model of breast cancer showed that rats exposed to hCG over a 21 day period (the length of rat pregnancy), are far less likely to develop breast cancer when exposed to a known carcinogen.

Today, at the 100th Annual Meeting of the American Association for Cancer Research. Johana Vanegas, M.D., a research associate at Fox Chase, presents findings suggesting that even a much shorter exposure to hCG can prevent breast cancer in rats.

Venegas is a member of the laboratory of Jose Russo, M.D. and Irma Russo, M.D., who were the first scientists to propose hCG as an anti-cancer agent. Their studies have shown that hCG offers lasting, protective changes within [breast tissue](#). Clinical trials of hCG in women, based on their work, are currently under way at three locations, nationally, including Fox Chase Cancer Center, and in one European country. The hCG hormone is an FDA-approved agent frequently used for fertility treatments.

"The ability to replicate the naturally protective effects of pregnancy against breast cancer will hold a significant public health value," says Vanegas. "In order to translate our finding into humans, a clinical trial

with hCG as a preventive agent against breast cancer, is already ongoing in pre-menopausal women with no previous pregnancy."

Vanegas and her colleagues studied virgin female rats, which had been divided into four groups: a control group, which did not receive hCG, and three groups that received hCG for five, ten or fifteen consecutive days. Following the treatment, each rat received a single dose of a breast cancer-inducing agent.

According to Vanegas, 90.9 percent of the rats in the control group developed breast tumors, compared to 71.4 percent, 57.1 percent, and 15.4 percent in the five, ten and fifteen day-treated animals, respectively. In addition, the average tumor size was also smaller in all the animals that received any of the three hCG treatments.

"The animals that received hCG, but still developed [breast cancer](#) did so much later than the control group, which further demonstrates the protective effects of hCG," Vanegas says. "While we don't foresee side effects among humans in using hCG, it is helpful to know that even smaller doses confer benefits on breast tissue."

Source: Fox Chase Cancer Center ([news](#) : [web](#))

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