

Cancer Advances: Study Suggests In Vitro Fertilization Can Be Done Safely in Breast Cancer Patients By Adding Tamoxifen or Letrozole to Fertility Drugs

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Chemotherapy drugs used to treat breast cancer can cause infertility by reducing the number of ovarian follicles (cavities in the ovaries that contain eggs). As a result, increasing numbers of women with breast cancer are seeking technologies like in vitro fertilization (IVF) to preserve their fertility before undergoing chemotherapy. IVF involves stimulating the ovaries to produce eggs, removing eggs from a woman's ovary, combining the egg with sperm in a dish, and replacing the resulting embryos in the woman's uterus. But standard fertility drugs used to stimulate the ovaries, such as follicle-stimulating hormone (FSH), may promote growth of breast cancer by increasing estrogen levels.

However, a new study in the *Journal of Clinical Oncology* (JCO) shows that giving the breast cancer drugs tamoxifen (Nolvadex) or letrozole (Femara) - which both stimulate ovulation and block the effects of estrogen - with a low dose of FSH can induce ovulation, without increasing cancer risk. Researchers studied 60 women with breast cancer, 29 of whom underwent IVF with tamoxifen alone, tamoxifen in combination with low dose FSH, or letrozole in combination with low dose FSH, and 31 women who chose not to undergo IVF. Compared with the tamoxifen-only group, women who received tamoxifen or letrozole plus FSH had more ovarian follicles, more mature eggs, and more embryos. After one and a half years, the risk of having their cancer return was similar between women who had IVF and those who did not (approximately 10%).

Researchers noted that the safety of this new technique is not guaranteed, and that more research is still needed. The study is continuing to determine the long-term safety and effectiveness of this approach.

What Does This Mean for Patients?

This study suggests that IVF using tamoxifen or letrozole is a promising way to preserve fertility in patients with breast cancer prior to chemotherapy. Women with breast cancer who are concerned about their fertility should know that they have enough time to undergo IVF before they begin chemotherapy. There is usually a six-week period between breast cancer surgery and chemotherapy, allowing enough time to undergo IVF, which typically takes two weeks to perform. Patients with cancer who are about to undergo chemotherapy can have any resulting embryos cryopreserved (freezing at very low temperatures) until they are ready to become pregnant. The study authors noted that they are also freezing oocytes (unfertilized eggs) in women who don't have a partner after stimulation with letrozole or tamoxifen. Women with breast cancer of childbearing age should talk to their doctors about options for preserving their fertility, and should consider seeing a fertility specialist as soon as possible after their breast cancer diagnosis.

Links:

[1] <http://www.jco.org/>

[2] <http://www.jco.org/cgi/content/full/23/19/4347?ijkey=rLAguKbHqKIJ2&keytype=ref&siteid=jco>