Myth or Truth? A New Way to Preserve Fertility for Women After Cancer Diagnosis

Maturing eggs in a lab allows a French woman to have a baby years after breast cancer.

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Women of child-bearing age diagnosed with cancer whose treatment could affect fertility have many options to preserve future fertility. One common approach is to work with an ob-gyn fertility expert to stimulate egg production and freeze the eggs, which can then be fertilized and implanted months or years later.

But that process can take a couple of weeks. Now French researchers have reported success with a technique that has been used with infertile women before but had apparently not yet been attempted with women after cancer treatment: retrieving immature eggs, which can be done within a day, freezing them and "maturing" them in a lab.

CNN reported that this is a "world first hailed as a breakthrough for reproductive science" and referred to the finding as a "game changer."

But is it really?

"I don't consider it earth-shattering, and today, it wouldn't be my first choice," says ob-gyn Nicole Noyes, MD, FACOG, who directs the fertility preservation program at Northwell Health in New York City. Under her direction, more than 125 babies have been born from previously frozen eggs. She has extensive experience working with people with cancer who wish to preserve fertility.

The current case is described in the February 19issue of the cancer journal Annals of Oncology.Five years ago, the woman, then 29, was diagnosed with breast cancer. Before treatment, seven immature eggs were retrieved and matured in a lab, then frozen. Five years later, once her cancer was in remission, she discovered she was infertile. Her frozen lab-matured eggs were thawed and fertilized by sperm in the lab; one embryo was implanted in her womb. On July 6, 2019, she gave birth to a healthy baby boy named Jules.

"It's promising," says Noyes, an avid golfer who compares this new option to having "another club in my bag, especially for patients that truly don't have a two-week window to undergo traditional

ovarian stimulation." It's not entirely new, however. While this may be the first documented case in a cancer survivor, she notes, maturing eggs in a lab is a fairly common practice in several countries, including Vietnam and Italy.

For most women with cancer, however, this approach isn't necessary—or preferred—she says.

One reason is that the odds for success may be lower with immature eggs. In the French case, for example, seven eggs were retrieved; six were matured, frozen and thawed; five were successfully fertilized; and one was implanted. But for a woman of 29, using standard approaches of stimulating a woman's ovaries with fertility medications to produce fully mature eggs at retrieval would typically result in about 15 eggs retrieved and "ready for sperm," as she puts it. "Of those, probably 12 would fertilize, and at least half of these would become 'usable' embryos." Thus, more embryos would be available for usage, increasing the overall odds for a successful pregnancy and birth. And if you're going to become infertile after treatment, she says, this matters. "You have only one chance to collect eggs."

The downside of ovarian stimulation is that it takes about 10 days for the eggs to be ready for harvest. That means a woman needs to postpone her cancer treatment, often for a couple of weeks. This can be concerning for women who are eager to treat their disease, but this short window is most often not clinically significant, according to Noyes. "There are very few tumors where waiting two weeks impacts overall prognosis," she says.

An exception would be a blood cancer, such as leukemia, which can require near-immediate treatment after diagnosis. In these cases, the option of retrieving immature eggs, which can be done in a day, could be a real benefit. "For everyone else, even someone with, say, Stage III colon cancer, a two-week delay in treatment may be acceptable to the treating oncologist," she says. "As a fertility preservationist, I always defer to the treating cancer doctor about safety and timing."

Noyes is also not particularly concerned about the hormonal risks associated with a short course of ovarian stimulation. "Women ovulate every month, secreting hormones naturally," she says, so adding one more two-week burst of hormones is insignificant in terms of overall cancer outcome. After treatment, women with estrogen-sensitive breast cancer may be given adjuvant medications, such as tamoxifen, that block estrogen for five and often 10 years.

For women diagnosed with cancer considering someday having a child, her advice is to find a physician who specializes in fertility preservation as quickly as possible. Start by asking your oncologist. The prospects for preserving fertility have improved tremendously in the last decade, she adds. "Most big fertility clinics offer fertility preservation now, and egg freezing is covered by insurance for many more people these days." Some states even require that insurance plans cover fertility preservation for people with cancer.

To learn more about fertility preservation, click here.

To watch an educational video about fertility preservation from the American Society for

Reproductive Medicine, click here.

For related content, see the Cancer Health article, “Oncofertility: Creating a Bridge Between Cancer Care and Reproductive Health.”
