Could an Artificial Ovary Help Women Conceive After Cancer Treatment?

This alternative could be safer for some women than the currently available option.

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According to the American Cancer Society, cancer treatments such as radiation and chemotherapy can sometimes affect women's ability to have children. And although one method can restore fertility for some, it's not safe for all. But an artificial ovary could help even more women conceive after treatment, suggest new findings presented at the 34th Annual Meeting of the European Society of Human Reproduction and Embryology, according to The Guardian.

The currently available method for preserving a woman's fertility entails the removal and freezing of ovarian tissue. However, because certain cancers can invade the ovarian tissue itself, the cancer can sometimes recur when the tissue is thawed and replaced.

So scientists have begun investigating an alternative procedure. For the experiment, researchers first stripped donated ovarian tissue of its cells, including any remaining cancer cells, resulting in a bare tissue "scaffold" made mostly of collagen, the protein that gives skin its strength. The scaffold was then seeded with hundreds of human follicles, the tiny sacs that hold early-stage eggs.

The next step was to implant an artificial ovary containing 20 human follicles into a mouse. Interestingly, a quarter of these follicles survived for a minimum of three weeks. The ovary was also able to remain nourished because blood vessels grew around it.

"This is the first proof that we can actually support these egg cells," said Susanne Pors, PhD, the study's coauthor and a postdoctoral fellow in the Laboratory of Reproductive Biology at the University Hospital of Copenhagen Rigshospitalet. "It's an important step along the road. But it will be many years before we can put this into a woman."

Pors predicts human trials could be up to 10 years away. But at least for now, there's some hope for those women who have endured fertility-damaging treatment and want to conceive in the future without the risks associated with the current option for conception.

Click here to learn more about fertility troubles when you have cancer.

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