Impact of cancer treatment on fertility in women

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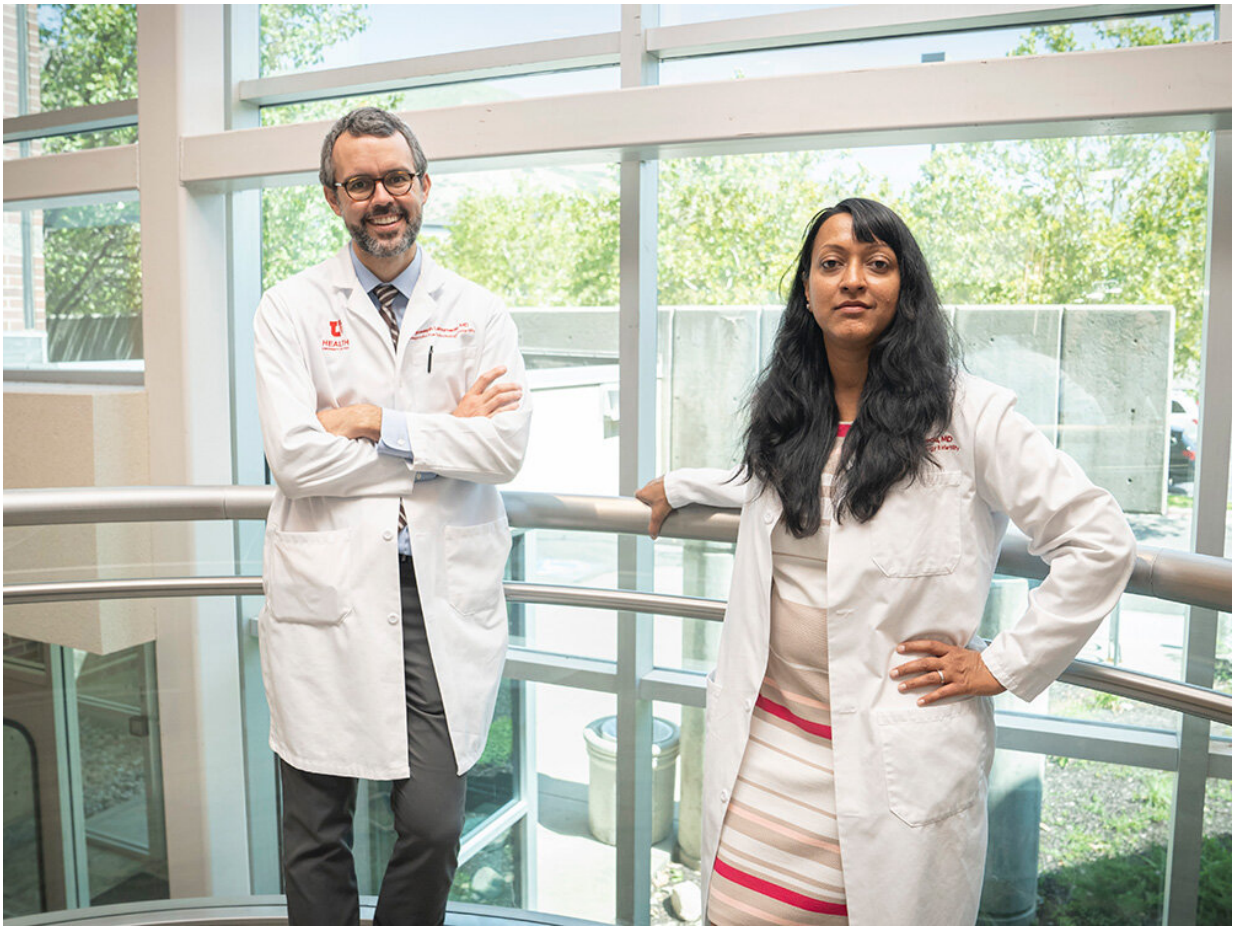

Joe Letourneau, MD, and Deepika Garg, MD. Credit: Huntsman Cancer Institute

In the United States, approximately 125,000 women of reproductive age

(15–45 years old) were diagnosed with cancer in 2018, according to the National Cancer Institute Survival, Epidemiology, and End Results database. Thanks to improvements in cancer research that have led to more effective treatments and better prevention and early detection methods, more than 80% of those women will become long-term survivors of their cancer diagnosis.

Yet many cancer survivors are faced with a difficult reality as cancer itself, or the treatments to defeat the disease, can also have a major impact on a person's ability to have children. That is why a major investment has been made in the medical field in a practice called oncofertility. This area of medicine seeks to bridge the gap between oncology and reproductive medicine, and to help support cancer patients and survivors who wish to have children.

New research published October 2021 in *F&S Reports* illuminates how cancer impacts fertility. Researchers outline findings about the birth rate in the healthy population as compared to cancer survivors.

The studies were led by Joe Letourneau, MD, a reproductive medicine doctor and assistant professor of obstetrics and gynecology at University of Utah Health. Letourneau also provides oncofertility care for Huntsman Cancer Institute patients. "Many cancer treatments are now recognized to negatively impact fertility," says Letourneau. "Fertility after cancer is a significant quality of life issue, and patients have a strong desire to understand the effects of cancer treatments on their fertility, and their ability to have healthy children in the future."

Deepika Garg, MD, who completed her fellowship in reproductive endocrinology and infertility at U of U Health, advanced the oncofertility projects during her fellowship. "We found the association between cancer and its treatment and a subsequent decreased chance of live birth in women of reproductive age," says Garg. The researchers

found the reduction in live births was most prominent among women diagnosed at age 40 or older.

Garg completed this project as part of her fellowship training. "I became interested in this issue as many of my patients were looking for guidance about how cancer will affect their chances of having a child," she says.

This study complements further work by Garg and Letourneau that outlines some of the specific changes that happen to individual patients after cancer treatment. Presenting recently at the American Society for Reproductive Medicine annual meeting, Garg shared results of their analysis of tissue samples from survivors of Hodgkin lymphoma. They found that approximately 2.5 years after chemotherapy, a time at which many Hodgkin lymphoma survivors may begin to resume family building, endometrial thickness and endometrial histology were not significantly affected by a history of chemotherapy exposure.

"With continued and substantial advancement in cancer treatment, there has been a rapid increase in the population of long-term survivors of adolescent and young adulthood cancer," says Garg. "Consequently, emphasis has increasingly been placed on long-term effects of cancer therapies and on quality of life. The potential impact on fertility is one of the concerns that are of greatest importance to my patients after their cancer treatment."

Garg and Letourneau hope these results will expand evaluation of the specific issues that cause adverse effects of cancer treatment on fertility. They are also focused on educating the community about the role of oncofertility among cancer patients during adolescence or reproductive years. Their goal is to utilize these insights to further refine clinical guidelines for preserving fertility during the cancer treatment process.

More information: Deepika Garg et al, Cancer treatment is associated

with a measurable decrease in live births in a large, population-based study, *F&S Reports* (2021). DOI: 10.1016/j.xfre.2021.08.004

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