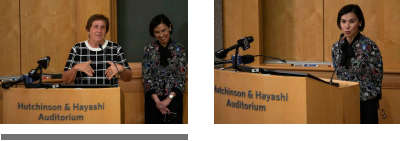


UPMC, Pitt to test 'revolutionary' breast cancer vaccine



MASSOUD HOSSAINI | TRIBUNE-REVIEW

Olivera Finn, an immunologist, speaks as Dr. Emilia Diego, a breast surgical oncologist, listens during an event at UPMC Magee Womens Hospital in Pittsburgh on Friday, Aug. 11, 2023.



UPMC and University of Pittsburgh researchers will test a vaccine to prevent breast cancer in what they say is a revolutionary step in the fight against the most common cancer in women.

The seed money — \$100,000 — to launch the clinical trial came from the Wexford-based nonprofit, Glimmer of Hope, which was founded with the goal of funding programs, treatments and research targeting breast cancer, the organizations announced Friday.

Through the clinical trial, doctors will evaluate how well the immune system of women newly diagnosed with ductal carcinoma in situ (DCIS) respond to the vaccine, which will be administered along with the standard of care for early breast cancer.

Dr. Emilia Diego, a breast surgical oncologist at UPMC Magee-Womens Hospital, said much of today’s medicine “with respect to breast cancer has to do with eradicating disease that’s already there. But the pipe dream is to prevent it from even ever happening to anyone.”

Overall, breast cancer is the most common cancer in women in the United States, according to the National Institutes of Health. For women between 50 to 64 years of age, the risk of ductal carcinoma in situ is as high as 88 per 100,000 women. Today, 20% to 25% of breast cancer diagnosed in the United States is DCIS, NIH stated.

Ductal carcinoma in situ “is not a cancer — it is a pre-cancer which has the potential to become cancer,” said Olivera Finn, an immunologist at UPMC Hillman Cancer Center and University of Pittsburgh. “When women are treated, often it’s surgery and some other treatments. What we’re hoping to do is, when the carcinoma is removed, we will give a vaccine that will prevent others from coming up, or if they come up, it keeps them from progressing to invasive cancer.”

The trial will start with 10 patients who have been diagnosed with DCIS, also known as stage zero, and expand to 50 patients. The process is expected to take three to four years.

“This is a very revolutionary thing,” Finn said.

Over the last 20 years or so, cancer vaccines have been tested in a therapeutic setting with people who already have cancer, Finn said. The primary tumor is removed and in many instances it can return.

“We always had this hope that there was a window of opportunity where we can strengthen the immune system to prevent the tumor from coming back,” Finn said. “We’ve been only partially successful and we’ve known for a while the reason why.”

Once an invasive cancer is present, the immune system is severely compromised and can’t recover, she said.

What this approach aims to do is bolster the immune system to keep the tumor at bay, before it can harm the body’s immune response, Finn said.

Finn said this approach is groundbreaking because, in the past, vaccines have been based on pathogens. Instead, this is targeted at a molecule that everyone carries, but the tumors express it differently.

“The immune system can actually see that difference and our vaccine directs it to see that difference.”

Finn said that previous trials have shown positive responses to the vaccine.

“We have great hopes that our women on our trial will have a very strong immune response,” Finn said.

Dr. Julia Foldi, a medical oncologist for UPMC, noted that the treatments available today are “not perfect and could cause a lot of side effects.

“There is a huge need to develop novel therapies,” she said. “Novel strategies that are less toxic.”

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