

*Vanessa's Story*  
**In Search  
of a Miracle**



VANESSA WITH HER  
GRANDSON, ZION

## When Vanessa was diagnosed with advanced colon cancer in 2014, just before her 60th birthday, the caring mother and grandmother learned the cancer had already spread to her stomach and liver.

Even after a five-hour surgery and nearly a year of grueling chemotherapy, the cancer continued to grow. Her doctor told her there was nothing left to try.

The news was devastating. Vanessa traveled around the country searching for treatment options.

“I was willing to try anything,” she says.

She remembers the day her young grandson, Zion, asked her if she believed in miracles.

She did believe, and she began searching for information. Vanessa came upon the Kimmel Cancer Center’s Bloomberg-Kimmel Institute for Cancer Immunotherapy website.

“I grew up on Caroline Street in the shadow of Johns Hopkins. As a little girl, my mother brought me to the Harriet Lane Clinic,” she says, as she realized that the help she was searching for might be in her own backyard.

A new immunotherapy, based on more than 30 years of research, was being studied in a clinical trial at the Kimmel Cancer Center. Vanessa prayed it was the miracle she needed.

The new drug, called pembrolizumab, allowed immune cells to see and respond to cancer cells. The first studies did not look promising in colon cancer, but one patient whose cancer responded to the treatment left researchers curious.

### MISMATCH REPAIR

The answer, as it turns out, was based in Kimmel Cancer Center genetics research from 1993. Researchers uncovered a gene mutation that allowed DNA copying errors to accumulate, eventually leading to colon cancer in some people.

In 1993, immunotherapy was in its infancy, and researchers had no idea these copying errors could also attract the attention of the immune system.

The large number of mutations caused by this genetic error, known as mismatch repair deficiency/microsatellite instability flagged cancer cells as abnormal. However, when the immune system activated against them, the cancer cells were able to shut down the response through a natural on/off switch of the immune system, called an immune checkpoint.

Pembrolizumab is in a class of drugs known as immune checkpoint inhibitors. It could turn the immune switch back on and unleash the power of the immune system against the cancer.

As Kimmel Cancer Center cancer immunology researchers conferred with cancer genetics researchers, they figured out that the one colon cancer responder had mismatch repair deficiency/microsatellite instability, and in 2013, the clinical trial of the drug was expanded to include any patient with colon cancer whose tumor had mismatch repair deficiency/microsatellite instability.

Vanessa’s cancer tested positive for mismatch repair deficiency/microsatellite instability, and she was admitted to the clinical trial of the drug. It was the miracle little Zion had encouraged her to believe in.

### THIS WAS DIFFERENT

Pembrolizumab was different than the treatments Vanessa had tried before that made her feel so ill but did nothing to stop her cancer. With this drug, her tumor was melting away, shrinking by 60%.

“During chemotherapy, I felt like I was dying. With immunotherapy, I felt like my body accepted it,” she describes.

“My dream was to see my grandchildren grow up,” says Vanessa. “Now I’m a great-grandmother. I truly feel like heaven opened up. Each day is a blessing.”

Vanessa, who loves to help others, volunteers with the prison ministry in her church and does some catering, providing sandwiches for local police departments, where her stepdaughter is an officer.

She is certain the treatment saved her life. She shares her story to help others.

“I know other African Americans are afraid of clinical trials,” says Vanessa. “If just one hears my story, and it changes that person’s life, I’ve made a difference,” she says.

The groundbreaking research built upon a 30-year-old discovery, and Vanessa’s inspiring story has been the focus of media attention, including an article in *Smithsonian* magazine and in a local TV news segment showing Vanessa speaking at a *Swim Across America* Baltimore event. The organization was the lead donor for the pembrolizumab trial from which Vanessa benefited.

Zion, who just a few years earlier asked his grandmother to believe in miracles, sees her in these news stories and beams proudly, telling Vanessa, “You’re a celebrity!”

Vanessa is grateful to her oncologist, **Dung Le**, and her nurse, **Holly Kemberling**.

They were so wonderful to my family and me,” says Vanessa. “They explained everything. It was evident their hearts are in it.”

Ultimately, the therapy bought her the one thing she most desired — more time with her family.

“I am so thankful. I’ve seen my grandchildren graduate and go off to college,” says Vanessa, who enjoys gathering her family and cooking for them. “Being diagnosed with stage 4 cancer was the hardest journey. I was sad and hopeless. I thought I was going to die, but that didn’t happen. I survived.”