



Celebrating the New Era in Breast Cancer Therapy

In past issues of Ask the Doctor I have focused on issues of prevention and early detection. In this issue I would like to review the amazing progress that has been made in the medical treatment of breast cancer. In the last decade we have seen many dramatic examples of how innovative new treatments can be more effective and less toxic in treating even the most aggressive cancers. We are currently in the process of transition from an approach to treatment that involves poisoning cancer cells, with all its side effects to normal cells, to a new approach that is called "targeted therapy". As the name implies, targeted therapy targets the cancer cell and has virtually no effect on normal cells. Thus, the treatment is more effective and much less toxic.

To put the issue in perspective, I would like to describe a patient who is alive today because of targeted therapy. Shahzad (her real name) was seen at the Breast Care Center for the treatment of her metastatic breast cancer. She wants her story to be told because she believes it could be life-saving for other women to learn what she had to learn the hard way.

Shahzad's mother was diagnosed with breast cancer, and once her mother was diagnosed, she did everything in her power to make sure that, if she were to get breast cancer, it would be detected early. She had genetic testing and was relieved to learn that she did not have the BRCA mutation (see Link). She was advised to have twice yearly mammograms and a yearly MRI. She followed these guidelines until 2011 when she skipped her MRI because of distractions associated with taking care of her young twins and managing her law practice.

Two years ago she found a breast lump on self-exam. The ultra-sound and mammogram were normal and she was told not to worry. A year later a new lump appeared and again the doctors said it was just a cyst. She insisted on a biopsy which showed invasive cancer. A subsequent P.E.T. scan showed wide spread metastasis to her lymph nodes and bones, thus explaining her progressive bone pain. Her first oncologist informed her that she had 2-4 years to live.

Shahzad had young twins, a successful business, and a wonderful marriage. She was going to fight back. She checked out the internet and found a blog about women who had her kind of breast cancer (HER2 NEU positive breast cancer). These women were discussing what they described as a new "miracle drug". Unfortunately, the drug was considered experimental. To receive the drug she would need to find a center that participated in clinical trials. Fortunately, she found our center on her internet search.

When she came to us she was weak and in major pain from her bone metastasis. Two months after starting treatment her pain was gone and her energy level markedly improved. Her P.E.T. scan showed complete resolution of her bone metastasis. She is now completing her first year of treatment and feels like she is back to normal.

The treatment she received is called T-DM1. In Shahzad's type of breast cancer the cells make too many copies of a gene called HER2. As a result, excess copies of HER 2 receptors are found on the surface of her cancer cells. Normal HER2 receptors receive signals that stimulate the cell to grow and multiply. But HER2 positive breast cancers have an excess number of HER2 receptors and so they multiply at a much faster rate than normal cells.

T-DM1 is a new drug that has two components. The first component is Herceptin, which is a specific antibody that attaches to HER 2 receptors on the cell surface and blocks the messages being sent to the cell to grow faster. Herceptin is an example of an immune targeted therapy. In addition to blocking HER2 receptors, Herceptin can also help fight breast cancer by alerting the immune system to destroy cancer cells onto which it is attached.

Herceptin is a very effective treatment for HER2 positive breast cancer, but Herceptin alone is not enough for patients like Shahrzad who have bone metastasis. T-DM1 combines Herceptin with a derivative of a powerful type of chemotherapy drug called maytansine – which is carried directly into cells. This combination appears to be a major breakthrough in treating HER2+ breast cancers.

On May 19th, Shahrzad will be telling her personal story and answering questions at “Give the Gift of Tea”, an event sponsored by the Be Aware Foundation. I would like to personally invite you to the tea and hope to see you there to celebrate advances in breast cancer care. It is at the UCI University Club from 11:00 AM to 2:00 PM. Tickets are \$65.00 each, or \$500 for a table of 8. Please view the invitation and RSVP on our website.

If you have any questions on breast cancer therapy, feel free to Ask The Doctor or contact us.