

My name is Bernard H. Berins, and on July 15, 2013, I will be 74 years old. I have been married for over 45 years, have three grown children and three grandchildren—and I have practiced law full time with the same firm in New Orleans for over 50 years. A little more than a year ago, as I approached my 73rd birthday, I remember reflecting on the fact that I had reached my seventies with no major health issues.

Almost three years ago, my older daughter (at the age of 38) was diagnosed with triple negative breast cancer in her right breast. After hearing the diagnosis, it took no time for us to spring into action. As is the case with any issue affecting my family, I took the lead in identifying the experts in the field in order to find the right treatment for her situation. Shortly after discovering the lump in her right breast, she underwent a lumpectomy and started a tough schedule of chemotherapy followed by radiation treatments.

Almost two years ago (one year after her initial cancer diagnosis), we learned that this aggressive cancer had returned now presenting with a tumor in the left breast. Again, we sought out expert advice and did our research, and agreed that a double mastectomy, followed by more chemotherapy and radiation would be the best way to reduce her risk of another recurrence.

Almost a year ago, in April 2012, I heard those words again—this time it was YOU have cancer. While this is not something you get used to, my family and I had been through this before and awaited the results of a biopsy so I could start treatment as quickly as possible. Unfortunately, it was not as forthcoming this time. Little did we know that it would take more than eight months to confirm it since the original diagnosis, cancer of unknown primary or CUP, was not a clear conclusion. What we did know was that the cancer had already metastasized to lymph nodes in my abdomen, groin, chest and neck, while the primary site was not known. This time I was facing a battle and had little to no information to guide my doctors and me.

Frankly, I had never heard of an unknown primary cancer nor did most of the people with whom I discussed my illness. Many thought I was joking. Who knew that in this day and age that a patient can be diagnosed with metastatic cancer, yet the primary site of the disease is

not always obvious? In fact, as I have learned since, I was one of the approximately 3-5% of cancer cases diagnosed as CUP annually in the United States.

Of course, my initial concerns grew deeper when I learned that, generally speaking, the best method of treating a cancer is by using a chemotherapy medication that attacks the primary cancer. Without identifying the primary cancer, an oncologist, even one who specializes in unknown primary cancers, sets the treatment plan on some medical assumptions and perhaps a little guesswork.

Instead of immediately initiating an appropriate treatment, I felt as if I was on a scavenger hunt. Over the course of eight weeks, from the time my cancer was discovered in mid-April through mid-June, we looked to various specialists and hoped that each test would provide the answer.

Shortly after my diagnosis, a surgeon at East Jefferson General Hospital in Metairie, Louisiana, removed the one lymph node in my neck that contained cancer. The pathology laboratory at East Jefferson indicated that I had an "undifferentiated" cancer. Based on this report, it was possible that my original cancer was breast, salivary gland or squamous cell carcinoma.

After a PET scan offered no clarification, my local oncologist suggested that I make an appointment with an unknown primary specialist at M.D. Anderson Cancer Center in Houston, Texas. Before my visit at M.D. Anderson, and because the pathology report indicated a possibility of breast cancer, I had a bilateral mammogram and ultrasound, among a battery of other exclusionary tests. There was no sign of breast cancer, and still no explanations. M.D. Anderson confirmed the East Jefferson pathology report.

In June 2012, I commenced my visits to M.D. Anderson and have continued almost every 10 weeks since. As part of my care, my M.D. Anderson oncologist sent a tissue sample from my biopsy to Biotheranostics in San Diego, California. Biotheranostics' molecular tumor profiling determined that I had a 55% probability of breast cancer, a 31% probability of salivary gland cancer, and an 8% probability of squamous cell carcinoma. Based on the Biotheranostics probabilities, the M.D. Anderson oncologist started me on a cycle of

chemotherapy with two medications that would, among other things, attack breast and salivary gland cancer. My chemotherapy treatments did not actually begin until eight weeks after my initial diagnosis.

My family and I hoped the specialist would offer more insight into my situation, but so many questions remained. While she was able to offer a chemotherapy treatment based on what was known about my cancer, she also gave me a prognosis of two to four years.

After completing six rounds of IV chemotherapy and seeing some reduction in my metastatic cancers, my M.D. Anderson oncologist suggested a 10-week chemotherapy break. It was during this time in late December of 2012 that I turned to the internet—not for conducting my own medical research which I knew was ill advised, especially with the lack of information relevant to CUP patients like me. Rather, while pushing through one of my now more frequent bouts of insomnia, I had a serendipitous event occur while browsing Facebook in the middle of the night. I discovered a cousin once removed, Kenneth Berlin, who was the president and CEO of a company called Rosetta Genomics. To the best of my knowledge I had never met or talked to Kenneth in my life, but was interested in my “long-lost” relative and curious as to what Rosetta Genomics was all about. So I typed in their website and much to my surprise, I discovered that one of their products, the miRview®mets2, identifies primary cancers which previously were determined “unknown.” Shortly thereafter, I reached out to Mr. Berlin and arrangements were made through my local oncologist to send a tissue sample to Rosetta Genomics for this testing. Their tests reflected, to their 90% certainty, that my primary cancer was breast cancer.

This confirmation came at the best time possible—just days before learning that my original chemotherapy regimen was not as successful as expected. In January 2013, scans showed that not only had the metastatic cancers on my abdominal lymph nodes grown, but also showed evidence of metastatic cancer on my spine.

My M.D. Anderson oncologist felt that Rosetta Genomics' results did in fact bring much more to the table and enabled her to focus on treating breast cancer, rather than other possible cancers. As a result, I am now on a chemotherapy that is directed only towards breast cancer. Because this statement is being submitted before my next appointment at

M.D. Anderson, we do not know how well this new treatment is working. But even if we discover that this particular chemotherapy is not as effective as hoped, my doctor has other targeted options in mind. Thanks to the Rosetta Genomics test I now have targeted treatment options!

It is scary enough to have a cancer diagnosis, but to not know the primary cancer increases the stress exponentially. Since receiving confirmation that my cancer originated as breast cancer, it feels as if a weight has been lifted from my shoulders, as well as my family's. By no means does this mean I am cured, but when dealing with what appears to be a greatly reduced life expectancy, each day is important. Having that knowledge makes all the difference, especially when it means there is confidence in my diagnosis as well as my treatment plan.

In addition to my distant relationship with Kenneth Berlin, I would also like to disclose that I am receiving no economic compensation of any sort whatsoever by submitting this statement. However, and in the interest of full disclosure, I was so happy with the results of the Rosetta Genomics test and impressed by the company's other products that I recently purchased 500 shares of its stock. For your information, it is my understanding that the total stock issued and outstanding in Rosetta Genomics is almost 9 million shares.

Their test has been the turning point in my own experience with cancer. It is my hope that these tests are available to help other similar cancer of unknown primary patients and that the number of unknown primary cancers decreases. It was not too late for me, and it is not too late for others. I only wish I had discovered Rosetta Genomics earlier—eliminating not only a number of unnecessary tests, but much of the emotional suffering my family and I have all been through over the last year.

Bernard H. Berins

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