

# Breast Cancer During Pregnancy: Living the Unimaginable

The choices are complex, involving religion, ethics and personal values. *MAMM* delves into a potpourri of daunting issues.

by Musa Mayer collage by Lise Poirier

Things had been going well in Sharon Bilotta's life in 1997. She was pregnant with her first child, and she and her fiancé, Alan, were preparing to marry. At age 32, she was looking forward to the time away from her work as a Cornell University microbiologist that motherhood would offer. Then, 15 weeks into the pregnancy, her midwife found a small lump in Bilotta's breast. A month later, the lump remained unchanged and a biopsy confirmed a frightening scenario: Stage I breast cancer. "The initial diagnosis was unbelievably terrifying," she recalls.

Having breast cancer is devastating under any circumstances. But during pregnancy, it seems unthinkable. It is hard to imagine two realities of female life more unrelated. Still, statistics show otherwise. As many women defer having children into their 30s and 40s, the diagnosis of breast cancer during pregnancy, while still rare, is becoming more likely: An estimated 500 to 800 cases will be diagnosed this year in the United States.

A figure this large is not surprising, considering that approximately 15 percent of invasive breast cancers—26,250 cases, according to 1999 American Cancer Society figures—were diagnosed last year in women of childbearing age, and the number is said to be on the rise. For women who are pregnant or nursing, dealing with breast cancer means confronting complex choices involving religion, ethics and personal values, as well as tackling tough medical issues, with limited research evidence to help in decision-making.

## Is therapeutic abortion advisable?

Often, the first question faced by pregnant women with breast cancer is: Will I have to end my pregnancy? That was Sharon Bilotta's biggest fear, one that proved unfounded, as it does now in almost all cases. "Therapeutic abortion is only necessary in very rare circumstances," says

Carol E.H. Scott-Conner, MD, PhD, head of the department of surgery at University of Iowa Hospitals and Clinics in Iowa City. "I have never recommended it myself." The rare circumstances, she adds, would likely involve an extremely aggressive, hormonally dependent cancer diagnosed very early in pregnancy.

According to the National Cancer Institute, "Termination of pregnancy has not been shown to have any beneficial effect on breast cancer outcome and is not usually considered as a therapeutic option."

Because a diagnosis of breast cancer during pregnancy complicates only one in 3,000 births, most obstetricians encounter only a handful of cases in a lifetime of practice. Likewise, most oncologists have little experience treating pregnant patients. As a result, some might still be inclined to recommend therapeutic abortion, says Elyce Cardonick, MD, of Thomas Jefferson University Hospital in Philadelphia, an OB/GYN and perinatologist who specializes in high-risk pregnancies.

Indeed, advocates find that a fair number of pregnant women with breast cancer end up terminating their pregnancies. "There are just too many issues for them to handle," says Patty Murray, co-founder of the Pregnant With Cancer Support Group, a nationwide telephone support network for women dealing with cancer during pregnancy.

"In general," says Dr. Cardonick, "I ask the oncologist, 'What would you do if she wasn't pregnant?' and then we find a way not to delay important treatment, while still protecting the pregnancy."

## Diagnostic concerns

Accurate diagnostic and staging procedures are important in planning appropriate treatment, but pregnancy can complicate diagnostic protocols. Experts warn that the initial process, the breast biopsy, is more complex in pregnant and lactating women, due to increased blood flow and breast engorgement. "The breast is more vascular," says Dr. Scott-Conner, "so the surgeon must plan for that and take more time."

Moreover, assays used to determine estrogen receptor status are inaccurate in pregnant women, explains Richard A. Michaelson, MD, chief medical officer for oncology at Saint Barnabas Cancer Center in Livingston, New Jersey. "The traditional manner of testing for the presence or absence of the estrogen receptor can be affected by high levels of hormones in the blood, so it may not give an accurate reading during pregnancy," he says. In fact, Bilotta may never know whether she actually had, as her pathology report indicated, the type of poorly differentiated, estrogen-receptor negative breast cancer typical in younger women. But since the time of her biopsy, more accurate assay techniques have come into being; they should be requested in all such cases. "The newer techniques utilizing immunohistochemistry, where an antibody to the estrogen receptor is employed, are not affected by blood hormone levels and therefore may be more accurate in pregnancy," Dr. Michaelson notes.

Diagnostic scans and some diagnostic X rays generally also have to be postponed, because the limited exposure to radiation that results from these tests can pose a small risk to the fetus. In most cases of early-stage breast cancer, however—Bilotta's included—these tests are not recommended, even for women who are not pregnant. Scott-Conner points out that the trend in cancer diagnostics in general is toward "focused workups that target high probability sites," and away from unnecessary whole body surveys. A chest X ray may safely be done, she adds, but, "in general, the metastatic workup should be limited to those situations in which there is a high clinical suspicion of metastatic disease and [where] documentation of disease would alter therapy."

In these cases, diagnostic strategies that minimize and shield radiation, such as magnetic resonance imaging and sonograms, can be used. They are considered safe during pregnancy, and in most cases, doctors are able to garner enough information to perform reliable screening and determine the stage of a tumor.

## Surgery & treatment during pregnancy

The prospect of surgery and treatment—always daunting—is even more so during pregnancy. This is especially true since pregnant women must balance conflicting medical opinions, their own medical needs and those related to their pregnancy.

For 42-year-old Elizabeth Hess, a nurse practitioner in Ithaca, New York, and her husband, David, medical con-

sensus was difficult to come by—even though they consulted with doctors in Syracuse and New York City after an excisional biopsy showed the lump she discovered in her right breast during her eighth month of pregnancy was cancerous.

"We drove home [from New York City] considering five separate opinions," she remembers. One surgeon told them that labor should be induced immediately and recommended she go directly from the delivery room into surgery to have a mastectomy. At the other end of the spectrum, an equally prestigious surgeon told her, "It's an emotional emergency, not a physical emergency. The lump is out. You can have the baby naturally, give yourself two weeks to recover, have a lumpectomy and axillary dissection and breastfeed until the chemotherapy begins."

Hess chose the latter option. "I wanted to separate the trauma of my diagnosis from my birth experience," she explains.

Bilotta elected to have the wide excision required by the deep location of her tumor, close to the chest wall. Radiation therapy, routinely recommended with breast-conserving surgery, was out of the question during pregnancy, she was told, as it could cause fetal malformation, prematurity and death. But having radiation soon after she gave birth would not represent an unreasonable delay, Bilotta's surgeon and oncologist agreed.

## Chemotherapy

At 35, Patty Murray was halfway through pregnancy with her third child when she found a lump under her arm while taking a bath one day in December 1995. The whole family was about to leave on a trip to Disney World, so Murray decided not to cloud their good time. When she returned home to Buffalo, New York, her nurse-practitioner told her the lump was nothing to worry about, but she had difficulty accepting this reassurance: "I just knew something was wrong."

The wait for a specialist at a Rochester breast clinic took a grueling two and a half weeks. At first the mammogram showed nothing because the mass lay so deep in the tissue, but then a sonogram and needle biopsy found cancer. When they did the surgery, the tumor proved to be very large, 6 by 9 centimeters, and beside it sat another large tumor. This was a fast-growing cancer. There was no time to waste.

"They recommended chemotherapy," recalls Murray, "and told me the molecules of the drugs were large and could not penetrate the placenta, so the baby wouldn't get the chemo. I had no choice but to accept this."

No one really talked to Murray about the risks of chemotherapy to her baby, but she surmised from the weekly doctor's visits and sonograms that they were watching her baby closely. Eight pounds, Patrick was born only 10 days early—and he had a full head of hair, despite the chemo. "The only one of my three children born with hair," Murray wryly observes.

Surprisingly, as far as a lot of doctors know, many chemotherapy drugs can be safely administered during the second and third trimester of pregnancy, although in about 50 percent of cases, they are not without short-term consequences, such as growth restriction and low birth weight, as well as premature delivery, occurring in about half of pregnancies. The longer-term effects aren't really known because little data has been collected.

While not considered conclusive, small retrospective studies dating back to the 1960s have documented normal births and normal children after exposure in the womb to some chemotherapeutic agents. In an April 1991 study in the *American Journal of Hematology* of 43 children whose mothers received chemotherapy for Hodgkin's disease, non-Hodgkin's lymphoma or leukemia, researchers found that many of the same drugs employed in the treatment of breast cancer were used. "Long term follow-up, from three to 19 years," says Michaelson, "showed normal physical, neurological, psychological, hematological and immune function, and normal chromosomes."

There have been some efforts to look at short-term effects as well. John J. Mulvihill, MD, director of genetics at the University of Oklahoma in Oklahoma City, has over the last decade compiled a registry of 311 mothers treated with chemotherapy during pregnancy, and their children, but the available data are limited to complications of pregnancy and birth defects. The overall rate of birth defects was 20 percent, compared to five percent in the general population. But the highest risk for defects came when chemotherapy was administered in the first trimester; those treated during the second and third trimester had a birth defects rate approaching the norm. A group called Motherisk, at the Hospital for Sick Children in Toronto, has established the Consortium of Cancer in Pregnancy Evidence (CCoPE), an international group of physicians and researchers working to develop up-to-date, evidence-based information on the diagnosis, management, prognosis and fetal outcome of cancer in pregnancy.

The first prospective study of 24 women with all stages of breast cancer, published in the *Journal of Clinical Oncology* in March 1999, concluded that "with a radiation-free standard treatment protocol and multidisciplinary care of both the patient and the fetus, breast cancer may be treated effectively without interrupting the pregnancy, compromising the health of the patient or causing demonstrable harm to the baby." At a median age of 4.5 years, none of the children in the study had any evidence of abnormality attributable to treatment during pregnancy.

Like Murray, Bilotta had chemotherapy during pregnancy. She consulted a perinatologist, who was eager for her to deliver her baby early because lowered amounts of amniotic fluid, another result of her treatment, posed a risk of "cord accident." If compression of the umbilical cord occurred, the baby might die. Bilotta persuaded

him to wait just a little longer. "I was having to rely largely on maternal intuition," she says of her reluctance. Born by caesarian section four weeks early, Thomas weighed almost six pounds. He nursed half an hour after he was born, nearly two months after his mom's last chemotherapy treatment. With all that had happened, Bilotta felt triumphant. "I had an overwhelming sense of accomplishment and purpose."

### **Nursing and lactation**

"I was very committed to breast feeding," says Hess of Ithaca, New York. "I didn't want my daughter affected." Yet nursing can prove to be another obstacle for new mothers being treated for breast cancer, especially those facing breast surgery.

Some surgeons insist that a lactating breast be "dried up" before they will operate. Jeanne Petrek, MD, director of the surgical program at the Evelyn H. Lauder Breast Center at Memorial Sloan-Kettering Cancer Center in New York City, believes this scenario is preferable, particularly when the surgery involves the central area of the breast. When one of the milk ducts is cut, there is a pronounced risk of milk fistula, the release of milk into surrounding tissue, which carries the possibility of infection. Hess' surgeon, however, believed the wide excision was feasible, given the location of her tumor, although he, too, warned of a greater risk of slow healing. The morning of surgery she drained her breast; she nursed Hannah the next day. Healing was slow, with milk and serum draining for a month.

Six weeks later, Hess stopped nursing with her affected breast so that she could receive her radiation. Reluctantly, she weaned Hannah completely at four months, so that she could begin chemotherapy. "It was a tearing away, a separation, to stop nursing," Hess says, adding with some pride that for several months afterwards, Hannah continued to be fed with breast milk donated by nursing mothers in her community.

### **Does pregnancy make a difference in prognosis?**

While there is no evidence to suggest that pregnancy itself plays any role in the development of breast cancer, or in its progression, breast cancer during pregnancy has sometimes been associated with an unfavorable prognosis, according to the medical literature. A 1990 review by H.C. Hoover, Jr., MD, of Massachusetts General Hospital in Boston, found that in 70 percent to 89 percent of women diagnosed during pregnancy, the axillary lymph nodes were already involved, meaning that the disease had begun to spread. This is thought to result from a diagnosis that can be delayed an average of five to 15 months.

A National Cancer Institute paper on this subject attributes this delay to the "natural tenderness and engorgement of the breasts of pregnant and lactating women [that] may hinder detection of discrete *Continued on page 57*

system. I watched everyone, to see if I could pick up the latest reggae moves. This was a very packed day; I fell like a ton of bricks onto the bed.

### **SATURDAY DECEMBER 11, 1999**

I simply rested and relaxed today, and visited Auntie B, who might come home tomorrow. We were all thrilled!

### **SUNDAY DECEMBER 12, 1999**

After church, we stopped by the hospital to check on Auntie B again, and I was pleasantly surprised to see her and Lenworth coming out. We went home and tended to her and made her feel comfortable. She wasn't in too much pain but felt sore and stiff as expected.

Then I went to visit my uncle's house to see my grandfather. Sasha and Garfield came to visit. They took me back to my house, and we said our farewells.

Auntie B was up waiting for me when I got back. I slept with her that night. I felt as if I could protect her if I stayed closer.

### **MONDAY DECEMBER 13, 1999**

My flight was delayed, so I went to the beach for an hour. The sea was rough but very clean. My two-year-old cousin Lemar was afraid, but Brian, uncle Junior and I coaxed him into the water. I practiced my swimming, something I hadn't done all summer. I floated. I dove. It was fun. When my hour was up, I went home. I hugged Auntie B and as I said good-bye, we both cried. ☐

### **PREGNANCY AND BREAST CANCER**

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masses, and therefore, early diagnosis of breast cancer." As a result, tumors tend to be larger and the disease may have already begun to spread to the lymph nodes.

Most studies show, however, that when matched stage for stage, breast cancer during pregnancy has the same outcome as breast cancer in non-pregnant women. Scott-Conner hopes that statistics suggesting poorer outcomes, such as those Dr. Hoover published, will begin to change as obstetricians

realize that breast cancer is a possibility for their younger patients and begin to do routine breast examinations early in pregnancy.

### **Activism and support**

Murray of Buffalo was unable to nurse her baby because she had to continue chemotherapy. But when it came time for the recommended mastectomy, she decided against it. By then, she had learned more about breast cancer and her options, and had gone for several other medical opinions. She was on her way to becoming an informed patient.

Like so many, she had started off trusting that her doctors would know what to do. It came as a shock to her to realize how differently her physicians interpreted the scant research data. "There are such varying opinions," Murray says.

Most of all, Murray recalls, she felt alone. "I just wanted to talk to someone in the same situation." It made a world of difference when she was able to speak with another woman diagnosed during pregnancy whose baby was 11 months old and doing well. Together, they vowed to help other women in this situation find resources and someone to talk to who had been there. Today, the Pregnant with Cancer Support Group, a nationwide phone support network Murray cofounded, has 30 volunteers.

Murray's son Patrick is now a healthy four years old. Hess' baby girl Hannah celebrated her fourth birthday in July. Bilotta's little boy, Thomas, now a busy and talkative two year old, is still small for his age, a possible result of the chemotherapy treatment. But in every other way, Bilotta says he seems normal and happy.

Looking back on her pregnancy with Thomas, and at the way this special time commingled with her diagnosis and treatment for breast cancer, Bilotta offers some thoughts. "I think having a baby took the focus off my own body and gave me a lot of motivation to be tough," she says, reflecting the duality of her experience—the pain and the joy together. "Yes, I had cancer, but at the same time, I had this baby growing!" ☐