
Breast Cancer 2016

Advanced Treatments, Sharpened Detection, Insightful Prevention

Phyllis Salpas, October 2016

It was Autumn 1972, and I was witnessing an unexpected and terrifying omen. My mother was weeping at the dinner table, her shoulders hunched over in a position of defeat. I could not put this scene into words at that moment, but what I was watching was the unravelling of my life. My instincts were screaming for me to run. At the age of 10, I had no choice but to do as I was told—eat. I tried, but I couldn't endure her muffled sobs. With great dread I asked, "Mommy, what's wrong?" She didn't answer, and my fear grew. A few minutes later I mustered enough courage to ask again, "Mommy, why are you crying?" This time she answered. She had been walking down the stairs that morning when her arm brushed up against something hard in her breast. She was to be in surgery at 7 AM the next morning for a biopsy and possible surgery. At that very moment, in one quick instant, I knew my mother was going to die. She was going to leave me forever. And I couldn't comprehend life without her. It was an impossibility.

No one said the word *cancer* out loud. My instinct that my mother had breast cancer was confirmed when I walked into her bedroom after she came home from the hospital. She was undressed, and there was a very long, thick, red suture where once her breast had been. She said, "I didn't know how to tell you." No one ever said another word to me about her condition until the day before she succumbed when my father called me into their bedroom where she lay in a coma and said, "Your mother is going to die." He then walked out, leaving me there alone with her.

It was two-and-a-half years later, and the impossible had become truth, sharp as the knife that removed her breast, sickening as the chemo that she vomited daily, scorching as the cobalt radiation that burned her. She was 50 years old when she finally stopped breathing in March of 1975.



First Lady Betty Ford and her husband, President Gerald R. Ford, sit together in the Bethesda Naval Hospital in Bethesda, Maryland, as Mrs. Ford recovers from her radical mastectomy in 1974. Mrs. Ford made it her mission to break the silence and end the stigma of breast cancer.

In the early 1970s, breast cancer deaths were still being recorded as *women's disease*. *Cancer* and *breast* were still unspoken words publicly. Cancer meant a loss of self, health, and life, all far too uncomfortable for people to deal with. No one wanted to talk publicly about the removal of a woman's sex organ, which was what a woman's breast was perceived to be. Worse than that were the fantasies and folklores of what women *did* to get breast cancer. Women like my mother were filled with shame, believing they would no longer be seen as women after their mastectomies, and that they would be rejected by their husbands who they thought would no longer desire them sexually.

Breast cancer patients and families like mine became part of statistical analyses. We were of no further significance to anyone, otherwise someone would have spoken to us about what we were experiencing and feeling. Women had few medical tools available to fight their cancers, language to help their children metabolize their experiences, or services to ensure their needs were met.

Finding a Stage 1 breast cancer was simply blind stupid luck. My mother was an Italian Roman Catholic. Touching her breasts would have been seen as a sinful, masturbatory behavior. My mother's tumor was the size of a plum when she discovered it. And of all the unnecessary, neglectful and ignorant harm that my mother and my family endured, the most grievous injury was delivered to us from her doctors. She had just recovered from a full hysterectomy, including the removal of her ovaries, and was being given hormone replacement therapy (HRT). The research and oncology communities had known since 1938 that estrogen and progesterone fed many types of cancers, especially the most common breast cancers. They did not inform American women that they were putting themselves in danger by taking large, experimental doses of HRT. My mother's breast cancer was estrogen-receptor-positive.

Advanced Treatments, 2016

Thankfully, much has changed since then. Treatments today still include surgery, chemotherapy, and radiation therapy. However, the types of these treatments have changed, can be less invasive, and have shortened recovery times. Breast conserving surgeries (BCS) such as lumpectomy, quadrantectomy, partial mastectomy, and segmental mastectomy are widely used, though limited to early stage cancers. According to the American Cancer Society ((ACS) 2016) BCS is an option when you "are very concerned about losing your breast; are willing to have radiation therapy and able to get to the appointments; have not already had the breast treated with radiation therapy or BCS; have only one area of cancer on the breast, or multiple areas that are close enough together to be removed without changing the look of the breast too much; have a small tumor (5 cm [2 inches] or smaller), and a tumor that is small relative to your breast size; are not pregnant or, if pregnant, will not need radiation therapy immediately (to avoid risking harm to the fetus); do not have a genetic factor such as a BRCA mutation, which might increase your chance of a second cancer; do not have certain serious connective tissue diseases such as scleroderma or lupus, which may make you especially sensitive to the side effects of radiation therapy; do not have inflammatory breast cancer."

What *did* the scientific community already know back then?

Breast Cancer

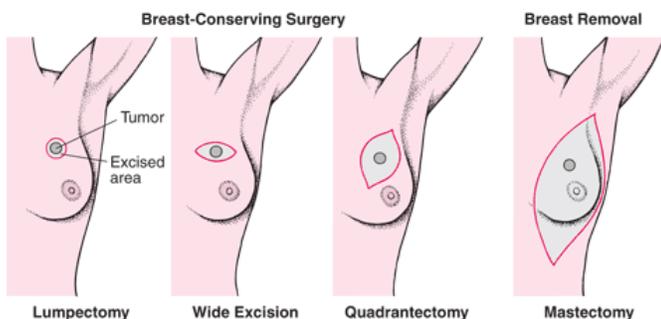
- ❖ Screening for breast cancer risk beyond family history was not possible, so other methods of detection had to be developed;
- ❖ Only a portion of American women were shown how to examine their own breasts, *and* Self-Breast Examinations (SBE) were showing positive results in finding breast cancers;
- ❖ Likewise, only a portion of American women were told why SBEs were important, and this information needed to be disseminated;
- ❖ The 1970s saw the development of numerous mammography systems and research on their efficacy in finding breast cancers, including Stage 1 cancers; mammography was *first* recommended in 1976;
- ❖ Numerous types of breast cancer bonded with estrogen and progesterone which caused these cancers to grow rapidly; 2 out of 3 breast cancers were estrogen and progesterone positive;
- ❖ Public dialogue using the words *cancer* and *breast* was needed to break the stigma of breast cancer.

Hormone Replacement Therapy

- ❖ There was an increase in the death rate of women on HRT from reproductive cancers;
- ❖ There was an increase in reproductive cancers among women on HRT;
- ❖ American medical culture was essentially *teaching* women to perceive menopause as a disease instead of a natural part of aging;
- ❖ Unlike many in the scientific community, the multi-billion dollar revenue source of HRT for pharmaceutical companies was not seen by the public as a developing health crisis.

Surgeons still perform mastectomies, but now the choices include simple, double, skin sparing, modified radical, nipple sparing, and radical. The ACS (2016) recommends mastectomies when you “are unable to have radiation therapy, or would prefer a more extensive surgery to having radiation therapy; have already had the breast treated with radiation therapy; have already had BCS along with re-excision(s) that have not completely removed the cancer; have two or more areas of cancer in the same breast that are not close enough together to be removed without changing the look of the breast too much; have a larger tumor (greater than 5 cm [2 inches] across), or a tumor that is large relative to your breast size; are pregnant and would need radiation therapy while still pregnant (risking harm to the fetus); have a genetic factor such as a BRCA mutation, which might increase your chance of a second cancer; have certain serious connective tissue diseases such as scleroderma or lupus, which may make you especially sensitive to the side effects of radiation therapy; have inflammatory breast cancer.”

Lymph node surgery to check for cancer cells is performed at the same time, or can be scheduled as a separate surgery. Reconstructive surgery is an option which depends upon the type of surgery you have.



The developments in radiation therapy (RT) are also very positive. Today the variety of radiation beams, accuracy of the beam used, and adjustments of the amount of radiation all help to reduce the harmful effects of RT and shorten recovery time. There are two categories of RT—external beam radiation and internal radiation (brachytherapy). RT is used “after BCS to help lower the chance that the cancer will come back in the breast or nearby lymph nodes; after a mastectomy, especially if the cancer was larger than 5 cm (about 2 inches), or if cancer is

found in the lymph nodes; and if cancer has spread to other parts of the body, such as the bones or brain” (ACS 2016).

Chemotherapies have also come a long way, although there is no way to sugar-coat their side effects. While some cause fewer effects, some can still cause challenging illnesses. Thankfully, there is an entire area of science dedicated to the reduction of side effects from chemotherapy. There are three main categories of chemotherapy—adjuvant (after surgery), neoadjuvant (before surgery), and those for metastatic breast cancers (those that have spread). The drugs that are used today can be used by themselves or in combinations depending on the timing of administration and whether or not the cancer has metastasized.

Women like my mother did not have the opportunity to be treated with targeted therapies, such as those today that aim to make cancer cells more vulnerable to radiation and to make healthy cells more resilient. Growth signal inhibitors can be used to prevent cancer cells from being told to reproduce. Angiogenesis inhibitors can prevent new blood vessel growth to cut off the “food” supply to tumors. And apoptosis inducing drugs can be used which force cancer cells to die using the immune system, kinase inhibitors, viruses and bacteria.

Likewise, hormone therapies are used routinely. Doctors check cancer cells for hormone receptors to see if tumors are positive or negative for estrogen receptors. There are medications that can block estrogen receptors so tumors cannot feed on estrogen and progesterone. There are other drugs that can reduce the amount of these hormones in the body.

Sharpened Detection and Prediction

Today mammography has more sensitive imaging capabilities with less radiation exposure than in the past. Combined mammography, ultrasounds, ultrasound-guided biopsies, SBE, genetic testing when warranted, and knowing your risk factors have contributed to the early detection of breast

cancer. Early detection is critical in the chances of surviving breast cancer.

Clinical breast examinations do not show an improvement in finding breast cancers. However, it is agreed that all woman should know the look and feel of their breasts so that they can detect changes. Once detected, women should report changes in their breasts to their doctors for further evaluation immediately.



The risk factors for breast cancer include the presence of the breast cancer genes BRCA1 and BRCA2, among several others; age; gender; family history; personal cancer history; race; density of breast tissue; age of first menstruation; age of menopause; and previous chest radiation.



The current mammography guidelines from the ACS for women of average risk are “Women ages 40 to 44 should have the choice to start annual breast cancer screening with mammograms if they wish to do so. The risks of screening as well as the potential benefits should be considered. Women age 45 to 54 should get mammograms every year. Women age 55 and older should switch to mammograms every 2 years, or have the choice to continue yearly screening. Screening should continue as long as a woman is in good health and is expected to live 10 more years or longer. All women should be familiar with the known benefits, limitations, and potential harms associated with breast cancer screening. They should also be familiar with how their breasts normally look and feel and report any changes to a health care provider right away” (2016).

Women of high risk should “get an MRI and a mammogram every year. This includes women who have a lifetime risk of breast cancer of about 20% to 25% or greater, according to risk assessment tools that are based mainly on family history; have a known BRCA1 or BRCA2 gene mutation; have a first-degree



relative (parent, brother, sister, or child) with a BRCA1 or BRCA2 gene mutation, and have not had genetic testing themselves; had radiation therapy to the chest when they were between the ages of 10 and 30 years; have Li-Fraumeni syndrome, Cowden syndrome, or Bannayan-Riley-Ruvalcaba syndrome, or have first-degree relatives with one of these syndromes” (ACS 2016).

I personally know several women who will not have mammograms because they do not believe in exposing themselves voluntarily to radiation. If you won't allow your breast tissue to be irradiated, be vigilant about knowing your breasts, know your risk factors, and change whatever lifestyle risks for breast cancer that you can.

Insightful Prevention

Early detection on its own is not enough. *Lifestyle risks can be changed.* This is really good news. Lifestyle risks include the use of hormones (especially HRT and oral contraceptives), level of alcohol use, obesity, sedentary lifestyle, and age during pregnancies. The avoidance of HRT combined with The Women's Health Initiative of 2002 are credited with the significant drop in new breast cancers since the year 2000.

Throughout this bulletin I have focused on women's breast cancer. It is important to remember that men develop and die from breast cancer as well. Men who detect changes in the look and feel of their breasts should also report these changes to their doctors immediately.

Remember, breast cancer can be found when it is very small, before it has spread, before it consumes a woman or a man's life, and before it tears a family apart. I grew into a woman who would rather punch fear in the nose than hide from it. There is no more room for unnecessary, neglectful ignorance in 2016.

Phyllis 

American Cancer Society 2016, www.cancer.org
Susan G Komen 2016, ww5.komen.org/
Cancer, The Emperor of All Maladies 2015, www.pbs.org
Radiological History Exhibit, www.pubs.rsna.org

Phyllis Salpas (c) 2016, in memory of Immaculata Montella Salpas
