Breast Cancer Awareness Month

Women's Edition Magazine

Feature – October 1998

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I find it very exciting to live during a time of so many new technological advancements. We have sent man to the moon; we travel in luxurious, motorized vehicles; and we have the option to be constantly "connected" with portable phones and pagers. We have personal computers and fax machines and modems and the Internet. We have vaccines to prevent many life-threatening diseases. even though success is still many years away, we currently have scientists working on two different types of cancer vaccines, one to wipe out any remaining cancer cells in people who have already been treated for cancer, and one for the general public.

More specifically, advancements in the research and treatment of breast cancer have grown by leaps and bounds, even in the past year. Awareness efforts are on the increase, and new testing methods, drugs, surgical techniques and therapies are playing a great role in both the quality of life and survival rate of women afflicted by this disease.

Breast Cancer Awareness Month came about in 1997 as a month-long extension of National Mammography Day, the third Friday in October. in 1993, President Clinton proclaimed National Mammography Day as an opportunity for women across the country to commit to breast cancer screening. In 1997, the entire month of October was dedicated to a broad, nationwide program of educating women about breast cancer and the importance of early detection.

One component of breast cancer education is understanding the misleading nature of statistics. The most important part of keeping statistics in perspective is knowing that the quoted chances of a woman developing breast cancer during her lifetime assumes that she will live to age 95 *or older*. The current statistics quote one in eight, meaning one out of eight women who live to age 95 or older will develop breast cancer during her lifetime. It is important to note that all women are at risk for breast cancer, though some are at a higher risk than others. Risk increases as a woman ages; however, the rate of increased risk is highest until age 50. After 50, risk still increases, but at a much lower rate. It has been noted that most women overestimate their risk by at least four times, and risk counseling is available if fear of the disease interferes with a woman's quality of life.

The more familiar a woman is with the look and feel of her breasts and the surrounding anatomy, including the armpit area, the more apt she will be to notice any changes. Healthy breasts undergo normal changes throughout a woman's

lifetime, and most "irregularities" noted in the breasts are not cancerous. Two-thirds of all breast cancers are discovered by women themselves, either accidentally or through a breast self-evaluation (BSE). Self-evaluation should be conducted around the same time every month, but specific times and procedures vary depending on a woman's physical circumstances. Ask a gynecologist or general practitioner for specifics. A physician should be consulted regarding any suspicious changes to the breasts. Conventional diagnostic procedures such as a mammography or ultrasound may be recommended. If you find a lump, don't panic; keep in mind that 80 percent of all lumps found in the breast are not cancerous.

NEW TESTING

A new test referred to as the Biofield Diagnostic System is currently undergoing analysis and is expected to be available in Europe by the end of 1998. This revolutionary approach to breast cancer diagnosis relies on similar principles as an electrocardiogram for heart disease. Electric pulses on the skin's surface are recorded and analyzed, because cancerous tissue emits a different pattern of electrical signals. This test is expected to be most helpful for examining the dense breasts of younger women, in which cancer is more difficult to detect.

NEW DRUGS

Scientists and researchers have been devoting significant time and resources towards several new breast cancer drugs during the past year. Laboratory-engineered estrogens, gene-based therapies, chemotherapy agents and bisphosphonates have all received nationwide press relating to new studies on the prevention and/or treatment of breast cancer.

Two laboratory-engineered estrogens, Raloxifene and Tamoxifen, are designer hormones which have been created as replacements for traditional estrogen therapy. Both drugs fall under the class of selective estrogen receptor modulators and are meant to accomplish the positive effects of estrogen while avoiding the negative ones. It has also been said, however, that further studies of this type of therapy will be needed in order to determine if the risk of cancer is completely removed or simply delayed until later in life.

Raloxifene, a drug used for treating osteoporosis, has been shown in two separate studies to reduce the risk of new breast cancers by almost 66 percent. Raloxifene is an anti-estrogen drug that works by blocking the estrogen receptors in the breast and in turn keeps the hormone from aiding in cancer growth. It is important to note, however, that this drug may increase the risk of dangerous blood clotting in major veins, especially in older women.

Tamoxifen, a drug originally created as a means of birth control, was shown in a separate study to reduce the risk of new breast cancers by 45 percent and to increase the survival rate of breast cancer patients. Tamoxifen is either pro- or anti-estrogen, depending on the cells it acts upon. Due to this fact, Tamoxifen has

been found to increase the risk of blood clotting and cancer of the uterine lining in women over 60.

A new gene-based therapy known as Herceptin locates and destroys cancerous cells while appearing to leave healthy cells untouched. Approximately 30 percent of women with breast cancer possess a genetic flaw which produces too many copies of the HER-2 gene; Herceptin, used in combination with chemotherapy, is targeted towards the destruction of these genes. DNA- or antibody-based tests provide reliable results in determining the presence of the HER-2 gene and compatibility between the patient and the new therapy. Herceptin is currently not on the market, but if FDA approval is gained, it will become the first monoclonal antibody for cancer treatment.

Taxol is a widely used chemotherapy agent originally developed from compounds found in the bark of the Pacific yew tree. Adding Taxol to standard chemotherapy for patients with breast cancer which has spread to the lymph nodes (node-positive breast cancer) reduced the re-occurrence of breast cancer by 22 percent and decreased the number of deaths from breast cancer by 26 percent. It is important to note, however, that increasing the dose of Taxol does not improve the survival rate, since chemotherapy drugs are poisonous to healthy cells as well as cancerous cells.

Clodronate is a new drug being marketed in Germany and is one of a class of nontoxic compounds (bisphosphonates) said to prevent bone loss from osteoporosis and cancer. Cancerous bone marrow cells produce certain hormones which increase bone breakdown, which in turn activates tumor growth. A recent study shows Clodronate may be able to interfere with this vicious cycle and, coupled with standard treatment, prevent the spread of breast cancer to bone marrow and other organs. Breast cancer patients at risk for developing bone tumors who were given this new drug developed half as many tumors as women not given the drug, and were about 66 percent less likely to die after three years of therapy.

NEW SURGERIES

Breast reconstructive surgeries are becoming more commonplace immediately at the time of the mastectomy. There are two primary variations - saline filled implants and skin flaps. The saline-filled implants are similar to those used in breast augmentation surgery. Skin flaps rotate a portion of abdominal skin and fat up to the breast area, and a new breast is created.

There are also remarkable advancements being made in the surgical arena. A new reconstructive procedure, called a skin-sparing mastectomy, fashions a new breast out of the patient's own fat and muscle from her back or abdomen. Only the nipple is removed, through which all of the breast tissue is extracted. This procedure allows the shape and size of the original breast to be retained. The reconstructed breast will age similarly to the opposite breast, since the woman's own tissue is used. Most recent studies show this procedure to have similar cure

rates as a lumpectomy, with better physical results. This treatment is currently available in certain cancer centers around the country.

One of the painful side effects of a mastectomy is due to the removal of lymph nodes. After removal, the nodes are examined under a microscope to see if the cancer has spread outside the breast. If so, a more aggressive follow-up treatment is usually followed. In order to alleviate this agonizing outcome, researchers are currently testing an imaging technique which may assist in locating the "sentinel node", the first lymph node cancer cells enter. This identification process begins with a radioactive dye injection to the breast area. The doctor then uses a special Geiger counter probe to follow the dye's progress into the lymph nodes. While this new procedure is being tested, all of the woman's lymph nodes will be removed to determine if a clean "sentinel node" ensures that all of the nodes are also cancer free. If this procedures is successful, a woman will only require one node to be removed to determine the progress of her cancer.

NEW THERAPIES

One of the most major advances in breast cancer treatment over the past ten years is in the area of supportive care - treating the illnesses that accompany chemotherapy and radiation. These quality of life issues are being addressed to a positive end.

New anti-nausea drugs are available now, allowing many patients to eat while undergoing chemotherapy. Advancements have also been made in the area of hematopoietic blood factors, drugs which aid the patient's immune system to overcome the effects of radiation and chemotherapy. Many blood cells are killed during treatment, including white blood cells which ward off infections. A decrease in these cells allow a greater possibility of fever and bacterial infections, to name a few. These new hematopoietic drugs allow the bone marrow to create more white blood cells at a faster rate, thereby decreasing the risk of infections.

For more information regarding breast cancer issues, check these resources: The national Cancer Institute's Cancer Information Service can be contacted toll free at 1-800-4-CANCER, and the American Cancer Society can be reached at 1-800-ACS-2345. Your local library and the Internet are also great sources of breast cancer information. So put on your pink ribbon and expand your awareness of breast cancer detection, prevention and treatment options. There is no better time to start than during October, Breast Cancer Awareness Month.