

Dear Readers,



It is the middle of winter and for some of you the weather has been particularly difficult this year. I like the seasons. They remind us that nature is a dominant force in our lives. Soon it will be spring; a time of renewal and new beginnings.

Best regards,
Dr. Silvana Martino

The Angeles Clinic FOUNDATION

Keep The Newsletter Going!

The **Breast Cancer Advisor** newsletter is funded by donors like you. Help us keep the content pure, with no outside influence, by donating to The Angeles Clinic Foundation.

Make a donation directly online by clicking

[Donate Now](#)

or mail to The Angeles Clinic Foundation,
2001 Santa Monica Blvd., #560W, Santa Monica CA, 90404

Your gift to The Angeles Clinic Foundation is fully tax deductible.

Breast Cancer Advisor

BY DR. SILVANA MARTINO • February 2013

BIOLOGY BASICS

In this issue, I want to discuss the concept of stem cells as it relates to cancer therapy. For decades, our understanding of cancer has been that each cell in the body was capable of becoming cancerous. Once that happened, that cell would divide into two daughter cells that were essentially identical to each other. These two new cells would, in turn, also divide into two daughter cells resulting in four cells that were essentially the same. Each of these 4 cells would continue the process indefinitely, and thus result in a mass of cells that had a common origin in a single cell. This pattern implies that all the cells that make up a person's tumor have essentially the same properties and behave more or less the same. If this understanding is correct, then all of our therapies should have the same effect on all of these cells.

This model has not explained all of a tumor's behavior. Both from laboratory and clinical experience, it is apparent that tumors are not really composed of cells that are identical to each other. Though they may look the same visually under the microscope, they do not all behave the same. The most obvious example of

continued next page

WHAT'S INSIDE

BIOLOGY BASICS 1

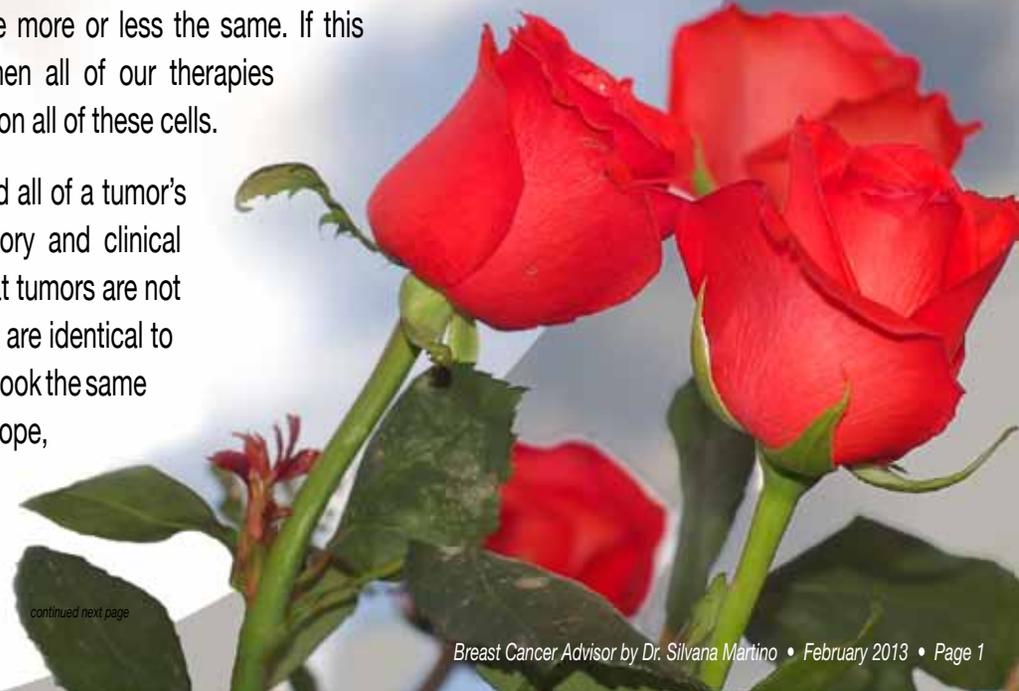
WHAT'S NEW

RISK OF BILATERAL
BREAST CANCER 3

GUEST WRITER

J. ARTHUR JENSEN, MD
BREAST IMPLANTS FOR BREAST
RECONSTRUCTION 5

QUESTIONS & ANSWERS 6



Biology Basics continued

diversity is that when you treat a person with any therapy, some cells die and others do not. This and other observations, have led scientists to question whether the model that we have used to think about cancer is correct.

A new theory has emerged. This new theory is the concept of tumor stem cells. This theory suggests a different reason as to why, when we give a drug to treat cancer, it first shrinks (responds), but later grows back. This concept proposes that among the millions of cells that make up a tumor, there is a small percent of cells that are different from all the others, and which have been named “stem cells.” These special cells don’t necessarily look different, but are different in their function. Stem cells have the ability to do two things: (1) when they divide, they are able to produce cells that are

the same as they are (new stem cells) and, (2) are able to produce cells that can regenerate the entire tumor. Stem cells appear to be inherently resistant to most of our present therapies. This concept, if correct, implies that unless we are able to kill off the stem cells, even if we are able to destroy all of the non-stem cell members of a tumor, the tumor can re-grow.

We need to recognize that this new model of cancer needs to be proven to be correct. Therapies are now being developed that will specifically target tumor stem cells. It may ultimately turn out that, to cure cancer, we need to combine our present therapies that destroy most of the cancer cells with therapies that are specifically directed at stem cells. This is an exciting area of research, and may revolutionize our thinking.



BIOGRAPHY

Dr. Silvana Martino

is the Director of Breast Cancer Research and Education at The Angeles Clinic Foundation in Santa Monica, California. She is board certified in internal medicine and medical oncology. Dr. Martino has specialized in the treatment and research of breast cancer for over three decades. She is a nationally recognized leader in the field of breast cancer. Her body of work has included research in breast cancer prevention, treatments for early breast cancer and metastatic disease. Dr. Martino has conducted and coordinated large national and international studies which have resulted in changing the standard of care worldwide.

DR. MARTINO'S
CURRICULUM VITAE

WHAT'S NEW

1. Risk of Bilateral Breast Cancer

We have known for several decades that a family history of breast cancer on either the mother's or the father's line elevates the risk of developing breast cancer. The details of the family history are essential. The number of affected family members, their ages at diagnosis, whether their breast cancers were unilateral or bilateral, the occurrence of breast cancer in a male relative and ovarian cancer are all important clues predictive of risk. The advent of BRCA1 and BRCA2 testing allowed us to separate patients with a family history of breast

cancer into two groups: those that are BRCA1 or BRCA2 positive, and those that are negative. Much focus has been given to those who test positive. They are recognized as being at high risk for both a first breast cancer, and a second breast cancer of the opposite breast. Additionally, they are recognized as having a high risk for cancer of the ovaries. Less attention has been focused on those who have a positive family history but when tested for the BRCA1 and BRCA2 genes are found to be negative. Do they still carry a high risk of a second breast cancer or is their risk of a second breast cancer equal to someone without a family history?

Compared to women who have had breast cancer, but who lack a family history of breast cancer, those with a first degree family history had a two-fold risk of a second breast cancer.

A recent report from the Women's Environmental Cancer and Radiation Epidemiology Study (WECARE) provides some important information on this question. The study population is based on four cancer registries from the U.S. and supplemented by data from the Danish Cancer Registry. The patient population selected for this report includes 594 patients with bilateral breast cancer and 1,119 patients with breast cancer only on one side, who tested negative for the known BRCA1 and BRCA2 mutations. Each woman was diagnosed with her first breast cancer at age 54 or younger and did not have a prophylactic mastectomy of the opposite breast. Several papers have been previously published based on

results from women enrolled in the WECARE study.

Several important observations are described in a recent report published in the Journal of Clinical Oncology, February 1, 2013 issue. Compared to women who have had breast cancer, but who lack a family history of breast cancer, those with a first degree family history had a two-fold risk of a second breast cancer. This increased risk was the same whether the family history was in a mother, sister or grandmother. An early age (before age 45) in either the patient or their family member increased

continued next page



What's New continued

the risk of a second event. Age over 45 still raised the risk level for a second event, but to a lesser degree. The highest risk was seen when both the patient and their family member were diagnosed with breast cancer before age 45. However, a history of bilateral breast cancer in a family member increases risk more than young age at diagnosis. When combining all BRCA1 and BRCA2 negative women diagnosed with their first breast cancer during ages 25-54, the 10 year cumulative risk of developing a contralateral breast cancer is 15.6% if there is a relative with bilateral disease. This incidence is close to the 10 year cumulative risk of bilateral disease of 18.4% previously published by this research group for women who are BRCA1 or BRCA2 positive.

What I found most valuable about this article is the reminder that family history remains an important influence in biology even in those with breast cancer who test negative for the BRCA1 and BRCA2 genes. Many, including physicians, have made the assumption that the risk of contralateral disease in those who test negative for these genes, is the same as in those without a family history. This article makes it clear that the details of family history remain critical in assessing subsequent risk. I was particularly struck by the observation that having a first degree relative, who had bilateral breast cancer, gave a risk nearly as high as the risk of bilateral disease seen in those that are BRCA1 and BRCA2 positive for whom bilateral mastectomy is often considered. Perhaps, the main distinction provided by BRCA testing

is the increased risk for ovarian cancer, and less so a difference in risk for bilateral breast cancer.

There are some important limitations to this study. Not all women were treated with systemic therapy, so the influence of such therapy on the development of a second breast cancer is not clear. Also, the age group included in this data set is women from age 25-54. We cannot extrapolate this information to women who are older.

Reference: Reiner AS, John EM, Brooks JD, Lynch CF, et al., Risk of Asynchronous Contralateral Breast cancer in Noncarriers of BRCA1 and BRCA2 Mutations With a Family History of Breast Cancer: A Report From the Women's Environmental Cancer and Radiation Epidemiology Study; *Journal of Clinical Oncology*, Vol31(4), Feb.1,2013, pg433-439



GUEST WRITER

J. ARTHUR JENSEN, MD

ASSOCIATE CLINICAL PROFESSOR OF PLASTIC SURGERY
UCLA GEFFEN SCHOOL OF MEDICINE
ADJUNCT FACULTY, JOHN WAYNE CANCER INSTITUTE

Breast Implants for Breast Reconstruction

Surgical options have never been better for women who are facing mastectomy. First, there is a growing acceptance that removal of uninvolved breast skin is unnecessary. This preservation of the natural skin of the breast (often including the nipple) enables reconstructions which can appear very much like the removed breast. Second, replacing the volume of the breast gland (the tissue which is removed during mastectomy) can be accomplished using a patient's own tissue, implants (filled with either silicone gel or saline) or a combination of the two.

Patients must understand that the aesthetic quality of breast reconstruction depends on how much tissue needs to be removed. When cancers are large, or are too close to the skin or nipple, the overlying tissue must be removed during mastectomy. When cancers are small and away from the skin or nipple, the uninvolved tissues can be preserved. The best reconstructions are seen when breast skin and nipple can be preserved—but this

is not always possible because of characteristics of the cancer itself.

Filling the preserved skin envelope is the challenge of most breast reconstructions when the skin has been preserved. If the skin envelope can be filled with tissues transferred (as flaps) from either the back or the abdomen, a very natural reconstruction can be achieved. However, this approach involves dissection of tissues away from the breast and may have complications of its own. The most convenient way to reconstruct the breast is with implant technology (tissue expanders followed by either salt water or silicone gel filled implants).

If breast implants made perfect substitutes for the body's own tissue, they would be an ideal way to reconstruct the breast. Unfortunately, using implants in breast reconstruction may have complications of their own. The most common problem seen with the use of breast implants involves scar tissue. The body grows a layer of scar tissue around all foreign materials from cardiac pacemakers to knee replacements. In the case of breast implants, the layer of scar tissue is typically thin and the implant remains quite soft. But over time, the scar tissue can tighten somewhat and the implant

can begin to feel firm. If the scar becomes very tight, the implant can feel hard and uncomfortable.

Recently, plastic surgeons have started to use materials aimed at improving the long term cosmetic outcomes of implant breast reconstructions. Allograft is a biological material taken from our own species. When a graft is taken from a different species, it is referred to as a xenograft. Use of such graft materials to improve implant based breast reconstruction is currently under investigation.

The type of breast implant which should be chosen for a patient's reconstruction remains a personal choice. Following the legal and regulatory challenges to the safety of silicone gel filled breast implants; many women are understandably concerned about the safety of these implants. Saline filled breast implants are also contained in a shell of silicone elastomere but are filled with salt water rather than silicone gel.

The kind of implant to be used depends on a patient's preference: every patient should be sure to read the company sponsored websites discussing the risks and possible complications with both of these products, prior to making her choice.

The best reconstructions are seen when breast skin and nipple can be preserved — but this is not always possible because of the characteristics of the cancer itself.

QUESTIONS & ANSWERS

(Q) Dr. Martino, my old oncologist retired and now I have a new, much younger oncologist. He seems very smart, but he almost never examines me. He talks to me, but his face is always mostly turned away from me and looking at his computer screen. He is always looking things up and typing. Shouldn't he examine me and look at me when he is talking?

(A) Welcome to modern medicine! As you no doubt are aware, all things change with time. This includes the practice of medicine. There was a time when doctors gathered the information needed to make decisions about your care mostly by examining you directly. As more laboratory tests and various types of X-ray and scan machines have become available, doctors have progressed to gathering less information from examining you, and more from these other tools. This has resulted in physicians doing physical exams less often and in a less detailed fashion. Another change that has taken place is that most information about you (your medical records) is now being kept in computer systems. Consequently, your doctor is being increasingly forced to walk around with a computer since that is where the information is found. These and other changes are turning medicine into a less personal and often less satisfying experience for both patients and doctors.

E-mail your questions to:

smartino@theangelesclinicfoundation.org

The Angeles Clinic FOUNDATION

The Angeles Clinic Foundation is a nonprofit organization whose purpose is to sponsor and support programs, services, education, advocacy, and research related to cancer. Our goal is to make a difference in all aspects of the lives of people touched by cancer. Your support is important in the fight against cancer and the journey towards a cure.



How To Receive Future Issues

You may request future issues of this newsletter by e-mailing your request to:

smartino@theangelesclinicfoundation.org

Visit our website at
www.theangelesclinicfoundation.org

or call us at (310) 582-7909

2001 Santa Monica Blvd. Ste 560W
Santa Monica, CA 90404

Disclosure: The information contained in this newsletter is for educational purposes only. It is not designed to diagnose or provide treatment recommendations. Please consult your own physicians for all decisions about your care.