Spring 2003

Call of the Amazons

Humboldt Community Breast Health Project

Volume 4, Issue 2

The Latest on Breast Health and Breast Cancer

by Julie Ohnemus, MD

The information on breast health and breast cancer is constantly evolving. Every year there are a number of conferences on breast cancer that share the new developments. HCBHP's information specialists are constantly expanding our library with up-to-date information from these conferences and medical journals –we have the most extensive collection of materials on breast care and education in Humboldt County. The following are just "snippets" from our library.

European Society for Medical Oncology (ESMO) Conference / San Antonio Breast Symposium

Anastrozole Superior to Tamoxifen in Early Post-Menopausal Breast Cancer

Anastrozole (Arimidex), an aromatase inhibitor used in post-menopausal women with early breast cancer was found to be superior to tamoxifen, the "gold standard" in the treatment of hormone sensitive breast cancer for the past 30 years. The ATAC (Arimidex, Tamoxifen Alone or in Combination) trial showed that women on arimidex alone in the adjuvant setting had better efficacy with 22% fewer recurrences than tamoxifen and the combination of the drugs. Because the improvement was small and the study is only 3 years old, and tamoxifen has been studied much longer than arimidex, it still remains the standard of care used by many oncologists.

Bottom line for which one to use depends on the woman's other health factors and looking at both drugs' side effect profile. Arimidex usage showed fewer problems compared to tamoxifen: with reduced hot flushes (34.3% vs. 39.7%), vaginal bleeding (4.5% vs. 8.2%), vaginal discharge (2.8% vs. 11.4%), fewer clots (1% vs. 1.7%), and fewer uterine cancers (< 0.1% vs. 0.5%) than tamoxifen, while tamoxifen had less muscle & joint aches (21.2% vs. 27.8%), and fractures (3.7% vs. 5.9%), than arimidex which causes more bone

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Nutrition and Cancer *Part 2*

HCBHP's last newsletter presented Part 1 of a lecture by Jeanne Wallace, PhD, CNC, a nutritionist specializing in cancer care. She educates people on how foods and nutritional supplements can enhance your cancer therapy (considered complimentary and alternative medicine CAM). Part 1 used an organic garden model as an analogy for our body, and the need to properly maintain our garden/bodies with appropriate food, using olive oil or canola oil, and decreasing the inflammation in our bodies. (If you need a copy of Part 1, please call the office – 825-8345). The following is a continuation of her lecture.

... angiogenesis. It's been big in the headlines a lot the last year or two. Angiogenesis comes from Latin: "angio," which means blood vessel and "genesis," to create or to produce. A Harvard doctor, Judith Folkman, discovered this about 15 years ago. In his experiments what he noticed is that when you do surgery and you find a tumor, what you find is that these cells are deeply and richly vascular, the density of blood vessels around the tumor is much more dense than you would find anywhere else in the body. Particularly in a well developed tumor. He wondered about that: why are there all these blood vessels? Because if you find a small tumor that's just in its process of getting started, you don't find these blood vessels. So in a series of experiments, what he was able to determine is that as the tumor progresses, the supply of blood vessels increases and increases. In further experiments, he found that if you could stop or halt the process of growing those new blood vessels, a tumor would sit there about the size of a pencil eraser head, it would just sit there that size and never grow and never spread. Of course when he first found this out, do you think the medical establishment applauded him and said this is wonderful and we have something new to do about cancer? No, they just laughed at him and they thought it was crazy, until the pharmaceutical companies started coming up with some drugs that target this angiogenesis process. So, many of the new trials are about drugs that can stop the growth of new blood vessels.

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Personal Stories

Carol Vander Meer, Director of Development

I am honored to join the staff of HCBHP. To be a part of a project that recognizes the holistic nature of the healing process is a gift, and an important part of my own healing. Like most of the staff and volunteers, I too am a cancer survivor. Though I did not experience breast cancer, my own journey through cancer is what brought me to the Project and it is a story I want to share.

In October of 1999, I was diagnosed with uterine cancer. I had a history of irregular bleeding and frequently consulted with my gynecologist. At 37, cancer was the last thing on anyone's mind. After months of unsuccessfully attempting to treat the symptoms using medication, I insisted that something be done. A hysteroscopy was ordered to sample the lining of my uterus. Just three weeks after returning from my honeymoon I got the news.

The pathology revealed that I had stage II endometrial cancer, news that caught my gynecologist completely off guard and sent me reeling. I couldn't believe that so soon after experiencing the most joyous day of my life, this could be happening to me. I immediately called my husband Steven, who rushed home. We sat wrapped in each other's arms, stunned, weeping yet resolved to deal with it together and head on.

It's hard to even recount all the intense emotions that ensued after that. Anyone who has dealt with a cancer diagnosis knows it is like being thrust into a whole new world, where everything suddenly has changed. Like many in Humboldt County, I had to travel to the Bay Area to find a specialist. I quickly had a total hysterectomy followed by pelvic radiation locally at St. Joseph's. At the time, we tried to view the whole experience as one big bump in the road, one that was behind us.

In December of 2000, I was still experiencing some abdominal pain, so a CT scan was ordered. The scan identified two masses, one in my abdomen and one in my pelvic area, as well as a tumor on my kidney. To make a long, complicated story short, the mass on my kidney, was removed and determined to be renal cancer-apparently unrelated to my uterine cancer. At the time, my other two masses were determined to be benign. I can't begin to describe how much of a struggle it was to grasp that I had not one, but two cancers to deal with, two different specialists in the Bay Area to deal with, more specialists here at home. It was like living in a bad dream.

However, the pain in my abdomen did not go away. The two masses that were earlier determined to be benign, were later found to be recurrent uterine cancer. In October of 2001, I had major abdominal surgery to remove the masses, accompanied by intra-operative radiation. This was followed by chemotherapy. It was during this most recent bout with cancer that I met Dr. Julie Ohnemus. I sought her out to become my primary care physician because of her reputation as a doctor, a cancer survivor and the founder of the Breast Health Project. I knew when we met that I had found a guide and partner in my healing, someone who understood the challenges in coordinating care and the need to address all aspects of healing. It was also during this time that I had the opportunity to experience the Persephone Healing Arts program and meet other survivors and volunteers with the Project.

I am thrilled to say that since completing chemotherapy, I have had a year of clear test results. I have had an amazing circle of family and friends who have supported me through it all. Still, I wish I could have had access to the types of services the Project offers. As Director of Development, I have a personal interest in helping support the Project address the number one diagnosed cancer in the state, but I am also interested in helping the Project work towards extending the HCBHP model to other cancers.

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Humboldt Community Breast Health Project,

a community resource of support and education for those facing a breast health concern or breast cancer.

We are a client-centered, grass roots organization with services provided by breast cancer survivors and their support persons.

We promote healthy survivorship through education, healing support and hope, enabling each person to become their own best medical advocate.

We support and challenge our community to address breast health concerns responsibly and holistically.

As survivors we heal through service and by bearing witness to others.

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The opinions and views expressed by individual contributors do not necessarily reflect those of HCBHP.

The Consultation Planning Process

by Mary Scott, R.N., P.H.N., Patient Navigator Coordinator

Learning you have a "suspicious finding" on your mammogram has to be one of the most devastating experiences in a woman's life. Preparing to meet with a surgeon or an oncologist can be overwhelming.

"What questions should I ask?"
"What are my options?"
"Will this health care provider know what I want?"
"Will they respect who I am?"

HCBHP staff and volunteers understand from personal experience how frightening this time can be. In an effort to lessen stress and improve communication during a client-physician visit HCBHP offers Consultation Planning. This process provides an opportunity for the client to organize and prioritize their questions in a calm, quiet environment before meeting with a physician. Using a systematic approach the consultation planner assists the client in clarifying what information they need to obtain from the physician to feel satisfied. The planner does not answer medical questions or give advice about health or treatment options during the interview but may encourage the client to list his/her questions on the plan for the health care provider. If information is requested, a referral to the information specialist or patient navigator may be made.

After the interview, a typed flow chart is created, which includes not only the client's unique questions but information about their personal background and communication style as it pertains to their current health situation. The finished plan reflects the concerns and questions the client had at that particular point in time. When approved by the client it is then mailed or faxed to the physician for review prior to the scheduled appointment. Having the plan in advance of the appointment allows the physician an opportunity to prepare and to get a feel about the client they are soon to meet. The client keeps a copy of the plan and may use it to take notes during the visit.

Of the 63 planning sessions conducted at HCBHP to date, all of the clients have responded favorably, i.e. that the service was helpful to them and that they would recommend it to a friend. Many have stated the service lessened their anxiety about meeting with the physician and helped to make the appointment go more smoothly. Consultation planning takes approximately one and one half hours from interview to completion of the plan. It can be conducted in person or over the phone and it is free. Call: 825-8345 for more information or to schedule an appointment. ❋

New Partnership with St. Joseph Health System

The Humboldt Community Breast Health Project has just entered into a new community partnership with St. Joseph Health System to improve community breast health. The partnership will increase access to screening exams, remove barriers to care and provide educational, emotional and medical support services for those facing breast cancer or a breast health concern. This new partnership brings together the services of the Humboldt Community Breast Health Project's Patient Navigator Program together with the medical providers of St. Joseph Hospital to create a network of treatment, support and healing. Mammographers and other staff will be acting as "front-line" contacts in the hospital, identifying the potential need for our services. We are inviting mammographers, nurses and other health care providers to participate in this year's Women's Cancer Advocacy Network (WeCAN) training.

This partnership is made possible through a grant from the San Francisco Bay Area Affiliate of the Susan G. Komen Breast Cancer Foundation. ❋

Volunteer Opportunities

Volunteers are at the heart of the work of the Project. While many of our volunteers are cancer survivors who work directly with clients, there are also volunteers, who are not themselves cancer survivors, that lend their support in other ways. We welcome any community member with time to give to help us fulfill our mission. Below is a sample list of some of the other ways you can help as a volunteer:

- Newsletter/special mailings: Folding, stapling, addressing & sorting (*newsletters on a quarterly basis & mailings as needed.*)
- Resource Library: Copying and filing journal articles in binder system, checking in books, organizing library materials, re-ordering brochures/pamphlets.
- Tabling at Health Fairs and Special Events: Team up with a veteran staff or volunteer to provide information about the Project at Health Fairs and special events.
- Benefit Raffle Team: Be a part of the HCBHP raffle team by selling tickets, tabling at the Arcata Coop, Farmers Market and Arts Alive or help processing mail order raffle tickets.
- Luther Cobb Benefit Concert- Sept. 21, requires the help of volunteers to prepare food for the reception, sell tickets, put up posters, set-up and clean-up for the event.
- Data Entry: Enter and update names for our mailing lists using Access. Training provided.
- Food for Events: Be on call to help prepare food for events special events, meetings, and gatherings.
- Other Projects: Do you have a special skill? We have a variety of tasks from gardening, to updating our scrapbook, to minor building repair. Let us know how you would like to help.

If you are interested in being a volunteer, call Carol. ❋

Latest on Breast Cancer and Breast Health cont'd

thinning. So, for example, a woman who has less bone density would be a better candidate for tamoxifen, because it helps increase bone density where arimidex does the opposite.

Arimidex was also superior in reducing the occurrence of a breast cancer in the opposite breast. Arimidex did not increase survival for those women with metastatic breast cancer, but its side effects led to a better quality of life, and so is the preferred drug. Arimidex may be the next agent studied for the "chemo-prevention" and risk reduction trials in breast cancer.

Note: aromatase inhibitors (AIs) are only for postmenopausal women. To understand how the AIs work we need a brief biochemistry review: Within a woman's body you find 3 forms of estrogen. Before menopause the predominant form of estrogen formed in our ovaries is estradiol. After menopause, and the declined functioning of our ovaries, the main estrogen is estrone, produced in other tissues, including our adrenal glands, fat cells, skin, liver, muscle, and breast tissue. The third estrogen is estriol, which is a weak estrogen and predominates during pregnancy – produced by the placenta.

If you recall, our estrogen is produced by the conversion of a form of testosterone (androstenedione) to estrone. The enzyme that performs this conversion is called aromatase. The AIs competitively block this conversion. This is the main estrogen-producing pathway in the postmenopausal state. In the premenopausal state this same pathway exists and the cells in our ovaries go on to convert the estrone to estradiol. However, this is not the only way estradiol is produced. In the ovaries the cells are also able to directly convert testosterone to estradiol, and this is predominately the way the premenopausal estradiol is produced. That is why when AIs have been tested in premenopausal women, they have been shown to have little effect on estradiol level suppression. In addition, the feedback loop we have in our body from our brain to our ovaries (the hypothalamus producing LH & FSH – follicle stimulating hormone) overcomes the efficacy of the AIs and stimulate the ovaries more, and can cause many ovarian cysts. (NOTE: Tamoxifen also causes higher production of FSH – by a different mechanism, and it's not unusual to see ovarian cysts in premenopausal women who get pelvic ultrasounds.)

ESMO 2002

Pre- and peri-menopausal women (<50) with early estrogen receptor positive breast cancer were given 2 years of goserelin (an injectable medication that puts your ovaries to sleep, which is reversible when stopped). After 12 years of follow-up this study found that regimen to be as effective as 6 cycles of CMF (cytoxan, methotrexate, 5-FU). (In Europe the surgical removal of a pre-menopausal women's ovaries is commonly used as an alternative to chemo.) This study shows younger women after finishing their goserelin treatment can recover their bone loss before they reach menopause. NOTE: the article does not address the usage of additional hormonal therapy such as tamoxifen, which is commonly prescribed after chemo in the US.

Journal of Agriculture and Food Chemisry, Nov 2002

Oregano - the spice of life?

Research has shown that herbs have higher antioxidant levels than fruits, vegetables, and some spices including garlic. Oregano had 3 to 20 times higher the antioxidant activity than the other 38 herbs studied. In comparison to fruits and vegetables, oregano ranks supreme: oregano has 42 times more antioxidant activity than apples, 30 times more than potatoes, 12 times more than oranges, and 4 times more than blueberries. 1 tablespoon of fresh oregano contains the same antioxidant level as a medium-sized apple.

Other herbs that have significant antioxidant activity, ranked in order, are dill, thyme, rosemary, and peppermint. In general fresh herbs and spices are better than their processed counterparts. Just as with any food product, herbs should be consumed in moderation.

American Surgeon 2002 Aug;68(8):735-9

Breast cancer in older women (>65) should be treated as aggressively as younger women. Older patients treated with tamoxifen and radiation after lumpectomy had a significantly smaller risk of recurrences than those treated with only surgery or only radiation. The individual decisions about treatment need to be based on what other health issues the patient has and what is her functional status.

Japanese Journal of Clinical Oncology 32:244-247 (2002)

In the last year a traveling PET (positron emission tomography) scanner has begun coming to Eureka at St. Joseph Hospital. This nuclear medicine study detects areas in your body that have a high metabolic rate (a physiologic change as opposed to an anatomic change). Cancer cells have a higher metabolism than normal cells. So the substance that is injected into your bloodstream is taken up more by cancer cells and "light up" on the scan.

PET scans are currently useful for detecting recurrent cancer suspected when a patient has an elevated tumor marker (CA27.29 or CA15-3 for breast cancer), and no symptoms to direct other types of studies. When something lights up on the PET scan, it is truly a cancer 80–100% of the time (other inflammatory processes such as arthritis can light up), and when nothing lights up it is correct 86–100% of the time. Cancers as small as 1 cm can be detected. PET scans are also being used to assess how effective a therapy, such as chemotherapy, has been, because often other methods use measurement of the tumor for comparison. These measurements often overestimate the tumor size because they are measuring both the live tumor cells and the necrotic or dead tissue. Future possible uses of the PET scanner might include differentiation of surgical scar from recurrent tumor to distinguish benign from malignant

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Latest on Breast Cancer and Breast Health cont'd

tissue, adjunctive usage with mammograms in women with dense breasts, and evaluation of the axillary nodes.

Department of Defense Breast Cancer Research Program

- Even moderate exercise (e.g. walking briskly for at least 2 miles 3 times a week) over the course of a life-time can reduce a young woman's chance of developing breast cancer by 33%, and the risk of breast cancer after menopause by 26%. This is just another study in supporting exercise as a means of reducing one's risk of breast cancer – starting young is even better.

- Age and body mass index affect tamoxifen metabolism: This study included both African American and Caucasian women, who had their tamoxifen metabolite blood levels drawn. Women who had a BMI less than 30 had nearly twice the blood level of tamoxifen breakdown products than obese women (over 30 BMI). Similarly younger women (<58 years) had lower levels of the drug in their system compared to older women. This suggests that prescribing the same dose of tamoxifen for every woman may not be ideal based on these results.

Annals of Internal Medicine 2002; 137:889-903

More and more cancer patients are using complementary therapy and alternative medicine (CAM), with no absolute resource of recommendations on what to use. In addition, their physicians face the challenge of keeping up with trends in CAM use and the evidence for the potential benefits and harm of these treatments. A team of researchers at Harvard recently published a review of CAM therapies for cancer, and characterized them into one of 3 categories: 1) those with sufficient evidence to view the therapy as useful, 2) those that are reasonable with caveats, and 3) those that are clearly not wise choices. *See a sampling in the sidebar, page 6.*

Additionally physicians and patients looking for detailed advice on more than 130 natural products (herbs, botanical, vitamins and other remedies) used in treating cancer have a new resource from Memorial Sloan-Kettering. This database is found at: www.mskcc.org/aboutherbs

Journal of Clinical Oncology: 20/2/2002:485-493

Breast cancer survivors (> 5years), who had received chemotherapy were tested and a subgroup were found to have significantly lower scores in verbal memory, psychomotor functioning, and working memory.

The Journal of the National Cancer Institute 2003:95/3/190 suggests evidence is mounting that potentially curative systemic adjuvant therapy for early stage breast cancer may result in cognitive impairment. After reviewing the 5 major published studies on this topic, they concluded that though the results supported the cognitive dysfunction finding, it was difficult by the methods used to determine if it was related to the chemo versus hormonal changes versus psychological factors. They are calling for larger, well-designed, confirming studies. At this time it is considered controversial as to whether this needs to be part of the informed consent process for chemotherapy administration.

British Journal of Cancer: v87, n11, 2002

A collaborative reanalysis of 53 studies including 58,515 women with breast cancer and 95,067 without the disease found that even one drink of wine or beer increases a woman's risk of breast cancer. One drink (10 grams of alcohol) raises the chances of developing the disease by about 7%. It is estimated that alcohol accounts for 4% of the cases of breast cancer in the developed countries. (Interestingly smoking, which is linked to many other diseases, did not cause an increase in breast cancer.)

Cancer Epidemiology, Biomarkers and Prevention 2003

Recent studies suggested that the increased risk of breast cancer associated with alcohol consumption could be reduced by adequate folate intake. 66,561 postmenopausal women were studied, and they confirmed the positive association of alcohol consumption with the usage of alcohol, but did not find any reduction in the risk with consumption of dietary folate, folate supplementation or methionine intake.

ASTRO 2002 (American Society for Therapeutic Radiology and Oncology) Annual Meeting

Photodynamic Therapy (PDT) appears to be safe & effective in breast cancer patients with a chest wall recurrence who have already received maximum amount of radiation. There is no development of painful fibrotic tissue changes. PDT involves an infusion of photosensitizing material followed 48 hours later by usage of laser therapy. One year after treatment > 90% of all the lesions had achieved "complete clinical and cosmetic resolution."

Women who initially have a lumpectomy followed by radiation, and develop a recurrence in that breast, it is common to treat it with a mastectomy. For those women who are at high risk for local recurrence on their chest wall, with careful conformal treatment planning, re-irradiation of the chest wall can be safely used.

Annals of Internal Medicine 2002; 137:678-687

Breast cancer does occur in men, though it is rare – 1500 new cases are diagnosed a year in the US. Risk factors include: testicular disease, benign breast conditions, age, Jewish ancestry, family history, BRCA2 mutations, and Klinefelter Syndrome. Breast cancer treatment is similar in men and women in the adjuvant setting; however breast cancer in men is more frequently hormone receptor positive and may be more sensitive to hormonal therapy.

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Recent Recommendations on CAM

Reasonably accepted CAM therapies:

- Certain dietary regimens
- Vitamin E supplementation for prostate cancer
- Soy supplementation for prostate cancer
- Selected herbal products and biological agents
- Acupuncture for chemo-related nausea/vomiting or for pain
- Massage for anxiety or pain
- Moderate exercise
- Psychological/mind-body therapies (e.g. support groups, relaxation training, imagery)

CAM therapies to avoid:

- Highly restrictive dietary regimens for those who are with poor nutritional status
- Antioxidants for those currently receiving radiation or chemotherapy
- Supplements which increase bleeding times for those whose platelets are low, receiving blood thinners, or undergoing surgery (e.g. garlic, echinacea, St. John's wort)
- Phytoestrogens (e.g. soy supplements) for patients with breast cancer (especially those who have estrogen receptor-positive tumors or are taking tamoxifen) or uterine cancer
- Acupuncture or deep tissue massage for those who have low platelets or on blood thinners
- St John's wort for those undergoing concurrent chemotherapy or taking other drugs for which failure to achieve therapeutic levels could lead to serious consequences
- High dose Vitamin A is prudent for all patients to avoid
- High dose Vitamin C is prudent for all patients to avoid, because of the risk of bleeding

SOURCE: Annals of Internal Medicine 2002; 137:889-903

Carol's Personal Story cont'd

I believe in the power of non-profits to create change in local communities. For the past 6 years, I have been working as the Director of Friends of the Dunes, a non-profit dedicated to conserving coastal bay and dune environments. When not at the Project you can often find me hiking in the dunes, paddling on the bay or working in the garden.

One of the most fulfilling aspects so far with the Project has been to hear other stories of survival. These stories inspire and fortify me. I look forward to building connections with other survivors and supporters and expanding the circle of support in our community for the Project. ❋

Latest on Breast Cancer and Breast Health cont'd

Cancer Causes and Control, 14(1): 19-27, Feb 2003

In postmenopausal women red meat intake was significantly associated with an increased breast cancer risk, and fish including fried fish and dairy product intake was inversely associated with breast cancer risk. No significant associations were noted between fruit or vegetable intake.

Journal of Agricultural and Food Chemistry, Jan 2003

Fruits and vegetables grown organically show significantly higher levels of cancer-fighting antioxidants than conventionally grown foods (as high as 50% more anti-oxidant levels). Pesticides and herbicides interfere with the production of phenolics – chemicals that act as a plant's natural defense and flavanoids that have potent anti-oxidant activity.

Annals of Oncology 14:421-427, 2003

"Ignorance is not bliss for breast cancer survivors." Women with the disease who rated their communication from their medical providers as incomplete or incomprehensible had poor quality of life scores even 5 years after their diagnosis. 45% of the sample reported that some aspect of the communication they received was unclear and 59% wanted to speak with medical staff more. Patients <50 years rated social and psychological help as more important, and were less satisfied with the information they received. For patients > 50 years, quality of life was significantly worse ($P < 0.001$) when communication was unsatisfactory.

FACTS:

1) The lifetime probability of developing cancer is higher for men (43.5%) than women (38.5%). However, because of breast cancer, women have a slightly higher probability of developing cancer before the age of 60. (CA, 2003)

2) Women with the history of breast cancer now constitute the largest group in the cancer survivor community. (Cancer, 1994) ❋

NUTRITION & CANCER CONT'D

Unfortunately, the body is very redundant, which means that if the body would like to do something it has more than one way to accomplish that goal. We have all kinds of back up mechanisms for everything and this is true for angiogenesis as well. There are to date about 12 to 16 different enzymes that have been linked to this process of angiogenesis. The pharmaceutical companies are busy targeting them one at a time to make a difference for cancer patients. So far the trials have been really disappointing because just targeting 1 of 16 enzymes is not really helpful. Here's where nutrition comes in. Each of these enzymes – all of the enzymes that drive angiogenesis – require copper in order to be effective. So Steven Bran at Moffitt University Hospital down in Southern Florida, initiated a series of experiments where he first took animals that had various cancers, and he put them on a low cancer diet and gave them a drug to remove copper from their bodies, just enough so that they were still healthy and didn't have copper deficiency disease, but to pull their copper down as low as possible. In those experiments he found that you could stop the growth of tumors by taking copper away.

So George Burr in Michigan decided he would follow up with a human experiment. And he took 68 people with various different cancers, predominantly ovarian, breast, colon, and lung cancer, and he also put them on a low copper diet and gave them a nutritional supplement to lower their copper. In everybody whose copper came down, they were able to achieve stable disease – no further growth of cancer.

So this is the third thing I really want you to take away from today: First was eat your vegetables; Get an oil change and do something about your inflammation; and now, stay away from copper. If you're taking nutritional supplements, please read the labels of your products. If you find copper, stop taking that particular product. The foods which are highest in copper which are probably wise for you to avoid are shellfish; the RDA for copper is 1 milligram – if you eat an entire lobster tail you will get somewhere between 36 and 40 grams of copper - stay away from shellfish; the next, which you'll be so pleased that I have asked you not to eat, are organ meats like liver. Organ meats like liver and kidney are also very rich in copper. These are the foods that are highest in copper; it's impossible to go on a no-copper diet because every food has trace amounts of copper. Well, okay, not Twinkies, but we certainly don't want you eating those. If you have copper water pipes to your house and your drinking your tap water you may want to get a filter that can remove copper. Some filters that do that are the Britta filter and the Pur Filter. If you have a different filter you can call the company and ask them for the assay to see if it removes copper.

So that' the angiogenesis process – and you can see we're using this organic gardening model – we've looked at the pH and compost. We're looking at all these different variables and what they can do. So the third thing I want to share with you is something called oncostasis. In science we've learned that you can stop a tumor growing by trying to kill the cells, but you can also often just quiet the tumor. You can influence it to just sit there. And this is a really radically different model because the way that Western medicine works right now is kill, attack, eradicate, shrink the tumor, get rid of the tumor at all costs . . . And this approach is more like, well maybe if we don't get rid of the tumor we can make it just be quiet and sit there. . . . Cheryl (Jeanne's partner), was diagnosed with a stage 4 brain tumor in October of 1997. At the time of her diagnosis the doctors told me that she probably had a six-month prognosis. And if she did aggressive chemotherapy from now until "the end" she might make it a year. . . But she's now at her five-year anniversary. Here's the kicker: we never tried to kill the tumor or get rid of it. And in fact the spot that the doctors had been calling tumor for the first two or three years – that spot is still there on the MRI. It's just sitting there – it hasn't done anything. So when the doctors every time look at the spot and say, "You need to start chemotherapy immediately" we say, "Yes, we hear you. Thank you very much. That's not our choice". It might be somebody else's choice and that's good. But in this particular situation it's the perfect example of oncostasis.

There is such a focus in western medicine on shrinking the tumor and yet if you do a meta-analysis, if you look at dozens of studies, what you find is that shrinking the tumor is not correlated with prolonging survival in cancer patients. So perhaps you might want to think to yourself, "What's my real goal here?" Is shrinking the tumor the most important thing? And in Cheryl's case we learned it wasn't the most important thing. There are lots of different nutritional supplements and herbal things in foods that have shown an oncostatic effect in test tube experiments and in animal experiments. In human experiments, something that really stands out as an oncostatic – something that controls or makes the tumor go quiescent – is melatonin: your sleep hormone. At night if you're sleeping in complete darkness, your pineal gland, sort of where your third eye would be, down here in the center of your head, secretes melatonin.

I have a beautiful story about melatonin from a buddy researcher of mine Dr. David Blask in upstate New York. He was not a melatonin researcher. In fact, he's a researcher, or was, for the pharmaceutical agents who made drugs like Tamoxifen and Iressa, breast cancer drugs. Breast cancer is his specialization. The pharmaceutical company would develop a new drug for breast cancer and he had a lab with thousands of lab animals and he would test the drug on breast cancer and report back whether the drug was working or not. Well, about twelve years ago he received a huge grant to build a new facility. And he built this new million-dollar facility – just a gorgeous

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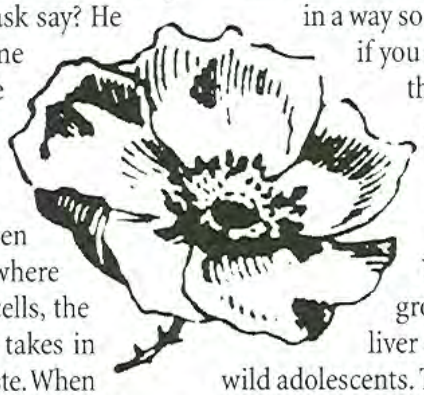
NUTRITION & CANCER CONT'D

place – and he moved his operation over to the new lab. When he got to the new lab, something really weird happened. The drugs that had been working to stop the growth of breast cancer cells in the old facility were now useless. All those promising drugs that worked, in the new lab suddenly didn't work at all. He was tearing his hair out about this. What was he going to say as the bigwigs in the pharmaceutical companies came in and asked, "How's our experiment going?" It took him weeks. He was pacing the hall one night in the new lab, trying to figure out why it could be that just moving to a better facility would make the drug stop working. He peered in the room where the animals are kept and noticed that because the new facility had these large windows, the animals were supposed to be sleeping but they were getting light from the street lights that were coming in. So he said maybe this is it – maybe the animals are stressed because they're exposed to light at night. So he bought shades and at night everything got closed up and the animals were sleeping in dark, and low and behold - all the drugs started working again. So what did Dr. David Blask say? He said, "It's not about the drugs". Of course at the time he didn't really know what melatonin was, so he went hunting until he found someone who could explain to him the difference between night and day. The difference between night and day is melatonin. In further experiments this doctor has been able to show, and particularly in breast cancer where this research was first done, that breast cancer cells, the cell membrane of the cell, is busy and active. It takes in nutrients, it supports the growth, and it exports waste. When melatonin is present, this cell membrane of breast cancer cells goes completely quiescent. The cell is basically sleeping. When melatonin is high we're sleeping, and what he's been able to show is cancer cells are sleeping too. When there's no melatonin, the cells are busy growing. So if you're the type of person who has very low melatonin, who's not sleeping in complete darkness, whose working at night and exposed to light during the night phase, then the cancer cells are busy growing all the time.



Since this time there have been about 68 studies on melatonin, 34 of which have been human studies. They have been done for every type of cancer from leukemia and lymphoma to lung cancer, breast cancer, brain cancer; for every type except ovarian cancer – do not take melatonin if you have ovarian cancer, the studies are iffy, they go both ways – but for every other type, humans in these trials who have been given melatonin supplements at bedtime fair much, much better than those who get placebo - who don't get to take actual melatonin. In your day to day life the most important thing you can do about this is make sure you're sleeping in complete darkness and make sure you go to bed early enough. Don't stay up through the night. If you're working the night shift switch if you can. The recent trial looked at nurses who worked the night shift and found that their risk of breast cancer was 2-3 fold higher, simply because they work under artificial light and they don't get their melatonin up where it should be.

I've talked a lot about diet and I've shared with you three different factors that could influence cancer. I hope that one thing you've been able to take from this is a new view: not to see your cancer as foreign .... But to see these cells as part of your own body who've lost their regulatory influence, and to learn that your diet and your lifestyle can help return that regulation to those cells to make them part of you again.

I'll share a fourth influence or variable with you before I close. And this again is something that just boggles my mind that this is possible. There's a process called differentiation. We talked about how cancer cells were once your own very healthy cells. Something has happened to them: maybe some damage to the DNA, maybe some influence on genetic material, so that they're now behaving in a way so that they grow uncontrollably. Wouldn't it be nice if you could just get them to relax and go back to being the way they were before? I have to use my adolescent model or analogy here. You get a baby cell that's born and it needs to get a set of instructions - basically a job description. It says, "Hello welcome to the body, you are a healthy liver cell. Your functions are as follows", and then the cell grows up, or it differentiates to become a healthy liver cell. In cancer, the cells have regressed and are wild adolescents. They're teens who want to go out and party. They don't want to take on their job responsibilities, and they want to have as many babies as possible. So if we could just influence them a little bit – if we could just be good role models. If we could get them the right job descriptions – if we could get them to go back we could differentiate them. Now this sounds very nice as an analogy, but can you actually do it? Can you actually make this happen? And the answer is very much so, yes.

Many nutrients are known to differentiate cancer cells. There are some that look like they work for almost every type of cancer, for example Vitamin A is a differentiating agent for every epithelial type of cancer – so basically everything except for some ovarian cancers, lymphoma, and leukemia. Vitamin D is also a differentiating agent. But then there are others that are specific to a type of cancer. If it's ovarian cancer a flavonoid from onions called Quercetin is a differentiating agent. If it's a brain cancer an alkaloid from goldenseal and other herbs is a differentiating agent.

But let's talk about Vitamin D since it's one that seems to be really global. Vitamin D is one of those strange things. When I was in school they taught me Vitamin D is in milk and it helps your bones. End of story – end of chapter. There's so much more to Vitamin D

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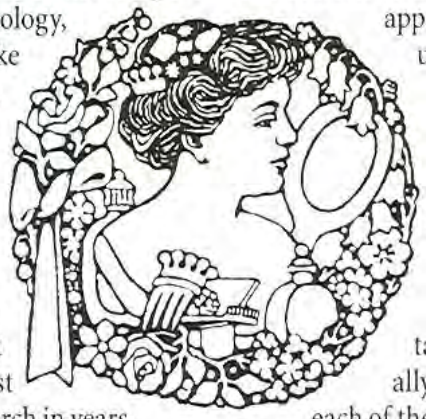
Nutrition & Cancer cont'd

– we've learned so much more about it. In the cancer environment what we have learned is that most tumors have receptors for Vitamin D. If those receptors are latched onto by a Vitamin D molecule, it differentiates the cell. It gives the cell just the type of role model it needs to grow up and take on a healthy job description. So that a cancer that's growing very rapidly, and Vitamin D comes in and sits on the receptors of those cells, it will greatly slow down the growth of the cell. And if you look at the cell under a microscope it will begin to look like a healthy cell. The morphology, the shape, the way that cell looks will look just like it's a healthy cell. This is cool and it's been shown in test tube experiments and it's been shown in animal experiments, and right now there's tremendous amount of research on this in human experiments. Paul Trious, who's a researcher and oncologist in France, has completed several of these studies. He recently published a breast cancer study and also a brain cancer study coming out of his lab – the brain cancer study was the most phenomenal thing I've seen in brain cancer research in years. They took 27 individuals who had completed their radiation, surgery, and multiple rounds of chemotherapy; these people's tumors were still growing. So you get a sense that these are pretty aggressive tumors. The doctor said we have nothing left to offer these people so Paul, go ahead, you can have these people for your silly little Vitamin D study. And Paul said thank you. So he took these 27 people and he gave them something called Alphacalcidol: it's a prescription form of Vitamin D that breaks down into natural Vitamin D 20 minutes after it's in your body. And he gave them a dose that was high enough but didn't cause any symptoms. (Vitamin D can be toxic if you get too high.) And some studies had suggested that you might be able to make a really good defense against this cancer with Vitamin D, but you'd have to use a dose that was so toxic that it was useless. So he didn't do that – he used a small enough dose. So he gave these people this vitamin D and he waited to see what would happen. A third of the people had a complete response: their tumors shrunk up and were gone on MRI. These were people who the doctors had given up on, who had completed all this treatment. He ended up getting four-year survivors, five-year survivors, and one person was a seven-year survivor. From a type of tumor that usually has a six-month prognosis. So while this is a small trial, and we're waiting on larger trials to confirm the results, you're talking about something that's non-toxic, inexpensive – you can get the dose for about $30, and made this huge difference. The breast cancer study was similar. So this process of differentiation is very useful as well.



At this point we've thrown out several ideas. We've thrown out talking to the genetic machinery of the cancer cells by eating a healthy diet. And looking at the influence of inflammation on the cancer cell. And looking at how copper can fuel angiogenesis and trying to remove copper. And looking at nutrients that can differentiate the cancer cells: get them to act more mature. A point I think that's really important here is that Western medicine keeps searching for the "magic bullet". The one cancer drug – of course every pharmaceutical company wants to develop that drug and make billions and billions of dollars. But what that then means is that we keep approaching the problem with the weed mentality: we use our one insecticide spray and get everything. You can't do that. Healing is so much broader than that. You know this from your own lives. You can't just drink carrot juice every morning and get healthy. You can't just meditate and do nothing else and get healthy. This is 24 hour, 7 day a week. This involves everything that you are on every level. And in cancer it's the same thing. When you're talking nutrition it's the same thing. What you really want to do for a healthy treatment ... is pick up each of these ways of influencing cancer cells in this organic model and apply all of them. Maybe each of these things that we've talked about has only a 10, 15, 20% effect. But if you have five, six, or seven of these different variables, you're really going to grow a beautiful garden. And that's what's important. Because that garden is really about healing.

I think the last thing I want to say is that I want to acknowledge that I feel like nutrition is important, but it's not for everybody. Not everybody comes to my office, and sometimes, family members pull someone in kicking and dragging and I say "go home". Because you can't force feed healthy foods and have it work for you. You have to come to this with an open heart. You have to come to your dinner plate with a very open heart. There are many different pathways to healing and that pathway is different for each of us. You have to honor that. You have to find the treatments where your gut feeling is "this is the right thing for me". If your doctor says "well you should do this" and your gut reaction is "gasp", don't do that, or don't do that yet, and give yourself some time to come to a place where you come to that treatment with an open heart about it. And with that I'd like to wish you all a good journey on the path that you choose for your healing. And thank you for having me here."

Thanks to Healing Journeys and Jan Adrian for permission to transcribe this lecture. Thanks to Jeanie Ammon for transcribing the talk so we all might be able to share in a perspective on nutrition and cancer. Jeanne Wallace will be doing a 1/2 day workshop after the next Healing Journey's conference on September 13-14. For more information go to www.healingjourneys.org. ❋

Forever Grateful

With deep gratitude and appreciation, we thank the following individuals and businesses that have made contributions to the Humboldt Community Breast Health Project, from December 20, 2002 to March 21, 2003.

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You need not be present to win.

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Your tickets will be mailed within 10 days.

HCBHP Programs

Amazon Warriors Support Group

Provides psychospiritual support and networking for breast cancer survivors. The **survivor/thriver support group** will now be incorporated into this support group, which meets the first and third Thursday at 7 pm.

Internet Access

Offers searches on topics related to cancer. (A great deal of cancer-related information is available over the Internet.)

Lending Library

Offers the latest books, tapes, and videos (on western and complementary medicine) to help breast cancer survivors and their families and friends.

WeCAN! - Women's Cancer Advocacy Network

A group of trained advocate volunteers who help support and guide women and their support system through cancer screening, diagnostic and treatment services.

Upcoming Events

Saturday, May 31

Raffle Drawing at Soroptomists Women's Health Fair in the Adorni Center

Sunday, Sept. 21, 7 pm

Evening of Piano and Voice concert at the Van Duzer Theatre in HSU.

Breast Health Project Receives "Women Helping Women" Award

Soroptomist International of Humboldt Bay and Eureka recently awarded the Breast Health Project the *Women Helping Women* award.

Phyllis Erickson, accompanied by Dr. Julie Ohnemus and Carol Vander Meer, accepted the award on behalf of the Project. Thanks to the many volunteers and staff - this award is because of you!

Humboldt Community
Breast Health Project

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