

TREATING SIDE EFFECTS OF CANCER TREATMENTS WITH COMPLEMENTARY MEDICINE

From the Breast Cancer Options 14th Annual Complementary Medicine Conference. Scott Berliner, RPh; Hope Nemiroff

WHAT ARE THE SIDE EFFECTS OF BREAST CANCER TREATMENTS

The side effects you experience will depend on the type, location, and extent of your breast cancer and the treatment you receive. Side effects are very individual and may not be the same for two people with similar diagnoses that are receiving the same treatment. They may even vary for the same individual from one treatment session to the next. Some of these side effects may show up immediately and go away when treatment stops and some may continue after you are finished with treatment. Some may show up long after treatment has stopped.

CHEMOTHERAPY - *How to make it more effective at killing cancer cells with fewer side effects.*

FASTING: A study of 10 elderly cancer patients voluntarily underwent short-term fasting before and/or after chemotherapy. The patients reported far fewer side-effects. In 2012 the same team produced further research (Science Translational Medicine; 7 March 2012) showing that fasting makes cancer cells more sensitive to chemotherapy. Fasting actually stopped cancer cells producing protective proteins from their mutated genes, while healthy cells made more protective proteins. As a result the healthy cells stop dividing and are less attacked by the chemotherapy resulting in lowered side-effects. In some combinations of fasting and chemotherapy the tumors actually disappeared. So fasting (for at least 72 hours prior to chemotherapy) can improve effectiveness. And reduce the side-effects of chemotherapy.

The work of Joseph Longo: Getting your average patient to fast is no easy chore. In the last few years Longo has developed a program for patients to use that makes the process easier. He provides boxed kits to his patients that contain daily rations of teas, nut bars, vegetable broth and selected nutrients that all together provide minimum calories but create a sense of satiety, which makes this short-term starvation process easier. Trademarked as Chemolieve™, Longo's program covers a period of 4 continuous days and is administered under physician supervision during every cycle of chemotherapy. No other food except water is consumed during those 4 days. It is started three days prior to chemotherapy (day 4). On day 5 the patient transitions back to a normal diet. On day 6 the patient kit provides some additional nutrients. It seems that much thought, testing and calculation have gone into designing these 'foods'. These design factors remain confidential or proprietary. On day 1 the diet is reduced calories but high fat. For the next three days it is very low calorie (<300 kcal).

It has become clear that cancers need specific nutrients to encourage their growth, and without these nutrients many cancers wither. Glucose is clearly one such nutrient, although there undoubtedly are others. Fasting reduces plasma glucose, IGF-1 and insulin levels and produces a state of ketosis which clearly has health benefits, one of those being to deprive cancer cells of nutrients. Cutting protein consumption has further anti-inflammatory and cancer-driving mechanisms.

That fasting may help chemotherapy or radiotherapy success is a different, and probably confusing point. Clinical trials are being done at USC's Norris Comprehensive Cancer Center to test the effect of periodic fasting. In one trial, cancer patients are divided into groups and follow various fasting regimens. Some patients, for example, fast for two days before chemo, and one day after, while others fast for four days but are allowed a few hundred calories a day of soups and other low-carb foods.

Metformin has effects on breast cancer similar to fasting: Metformin, a drug used to treat type 2 diabetes, has been shown to reduce breast cancer risk and recurrence. Metformin appears to mimic some aspects of caloric restriction in the body. In fact, metformin has been shown to enhance the effectiveness of Adriamycin chemotherapy.

MANAGING FATIGUE FROM CHEMOTHERAPY & RADIATION-The best remedy for fatigue is exercise. This has been shown in research studies. It is really important to make sure there are no underlying medical issues going on that may be adding to the fatigue, such as anemia, iron deficiency or low thyroid function. Most often there are not any of these causes, and it is just "cancer-related fatigue" from the treatment. The main difference between cancer-related fatigue and just being tired is that you DO NOT feel better after getting more rest. Do a minimum of three hours of exercise a week, and if you can, five to six hours a week. Almost any type of exercise will help. Yoga to be particularly useful because it also tackles issues like concentration and stretching. You can even do yoga at home with a video or DVD if getting to a class is a problem or not desired

Cancer-associated fatigue and the chronic adverse effects of cancer therapy can be reduced by lipid replacement therapy using membrane lipids along with antioxidants and enzymatic cofactors, such as coenzyme Q(10), given as food supplements. Administering these nutraceutical supplements can reduce

oxidative membrane damage and restore mitochondrial and other cellular functions. Clinical trials using cancer and non-cancer patients with chronic fatigue have shown the benefits of lipid replacement therapy in reducing fatigue and restoring mitochondrial electron transport function.

HAND-FOOT SYNDROME (*Palmar-Plantar Erythrodysesthesia* or *PPE*) is the result of chemotherapy or biologic drugs leaking into the capillaries of your outer extremities, like the palms of your hands or the soles of your feet. It can cause irritating symptoms like redness, pain and tenderness. Dryness and cracking may occur in areas, in addition to a numbing or tingling sensation.

Prevention: Avoid anything that causes heat or friction near these areas for at least a week after exposure to cancer-treatment drugs. Stop activities like prolonged baths or exposure to warm water, vigorous exercise or unnecessary walking, everyday chores (like washing dishes, cooking, gardening), and anything that rubs the surface of the skin (like using Band-Aids). This is the perfect time to start moisturizing hands and feet to help prevent and ease the symptoms. Vitamin B6 may help reduce the intensity of hand-foot syndrome in patients. Expose your hands and feet to cool running water or put them in an ice pack for 15 to 20 minutes per day.

If hand-foot syndrome has already developed, try to make the area colder by using ice packs periodically. Soaking the affected areas in lukewarm water and Epsom salts helps alleviate pain. Applying a thick, toxin-free gel that has been cooled in the refrigerator may also bring relief.

NATURAL HENNA PASTE- HOW TO USE HENNA TO TREAT HFS/PPE:

MAKE IT: 1/4 cup water ---- 1/8 cup henna powder --- A squirt of lemon juice

Bring the water to a boil, then turn off the heat. Add the henna slowly and stir until it is like cream of tomato soup. You will probably use about 1/8th of a cup. Add a squirt of lemon juice. Let it cool. (If you already have cracks, skip the lemon juice. It will sting.)

APPLY IT: Cover a work area with plastic bags or an old towel (henna stains). Paint a thin layer on your bare feet and hands. I use a foam paint brush to apply it.

LET IT DRY: It takes up to 15 minutes to dry and then let it sit for at least an hour. You can rinse it off or put socks on and leave it for your next shower.

WHAT TO GET: Jamili summer crop (most current year) henna powder has been found effective in treating HFS/PPE. You might find that at an Indian grocery store or buy it: www.castleart.com (Green Bay) (920) 430-8826. (Buy pure henna powder. Don't buy: henna for hair; anything called "Black" or "neutral" henna; tattoo henna; pastes or pens) **Henna does not help with neuropathy.*

CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY (CIPN) effects the lives of up to 40% of cancer patients who receive chemotherapy. Nerves have a covering (myelin) that protects them from damage and ensures that they work properly. One of the proposed theories is that CIPN can develop as a result of damage to the myelin covering through drug-induced free radical production in and around the nerves.

The use of vitamin E to treat peripheral neuropathy agent cisplatin, which has a high incidence of severe peripheral neuropathy at certain dose levels, was used in the study. Patients on cisplatin therapy were given oral vitamin E, in the alpha-tocopherol form, before starting chemotherapy and for three months after. The incidence and severity of neuropathy was found to be significantly lower in the vitamin E group than in the control group that received a placebo. The researchers concluded that, due to the effectiveness of vitamin E at protecting patients from neurotoxic effects of cisplatin in this study, vitamin E should be included in the treatment protocol of patients receiving this drug. caused by chemotherapy: This was tested and found effective in a 2010 study in "Neurology." The chemotherapy

MOUTH SORES- Many chemotherapy agents cause the lining of the mouth and digestive tract to slough off and become raw and tender. Even in use in hospital settings today is L-Glutamine, an amino acid that helps repair the lining. With mouth sores I recommend a gargle and for all patients I recommend oral capsules or powder mixed into water or juice.

Oral glutamine reduces the duration and severity of stomatitis after cytotoxic cancer chemotherapy. Studies show that the duration of mouth pain was 4.5 days less in chemotherapy courses in which glutamine supplementation was compared with placebo (Wilcoxon's signed rank test, $P=0.0005$). The severity of oral pain also was reduced significantly when glutamine was provided with chemotherapy (the amount of days mucositis restricted oral intake to soft foods [$>$ or $=$ Grade 2; Modified Eastern Cooperative Oncology Group grading system] was 4 days less with glutamine compared with placebo; Wilcoxon's signed rank test, $P=0.002$).

CHEMOBRAIN- "chemobrain," can affect up to 35% of post-treatment breast cancer patients. Post-treatment, the common mental "fogginess" known as chemobrain can prevent them from staying organized and completing everyday activities, such as sticking to a schedule, planning a family gathering, or remembering where they left the car keys.

The women participated in a research study that assigned them to either early or delayed treatment, with a 5-week, 2-hour group training session. In the session, a psychologist taught them strategies to help them with their memory and maintaining their ability to pay attention to things. Women in the early intervention group reported improved memory and test functioning compared with those in the delayed intervention group and showed continued improvement 2 months after completion of the rehabilitation program. The brain wave pattern in the intervention group actually normalized

RESOURCES:

1. Fasting and less-toxic cancer drug could be alternative to chemotherapy
<https://news.usc.edu/78953/fastig-and-less-toxic-cancer-drug-could-be-alternative-to-chemotherapy>
2. Evaluation of a Community-Based Exercise Program for Breast Cancer Patients Undergoing Treatment. <http://www.ncbi.nlm.nih.gov/pubmed/25539165>
3. Topical henna ameliorated capecitabine-induced hand-foot syndrome.
<http://www.ncbi.nlm.nih.gov/pubmed/24021017>
4. Protective effects of vitamin E on chemotherapy-induced peripheral neuropathy: a meta-analysis of randomized controlled trials.
<http://www.ncbi.nlm.nih.gov/pubmed/24491883>
5. Oral glutamine reduces the duration and severity of stomatitis after cytotoxic cancer chemotherapy.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=MOUTH+SORES+I+glutamine%27>
6. New Study Reveals Effective Treatment Program for Breast Cancer Survivors With 'Chemobrain'
<http://www.ascopost.com/ViewNews.aspx?nid=25640>