

RECENT NEWS YOU CAN USE

Cancer patients often use 'complementary methods' (*Cancer* 2008; Reuters Health)

In addition to conventional treatments to improve survival, most cancer patients use some forms of complementary methods (CAM) to relieve symptoms and side effects and increase wellness, according to findings from a large study of randomly chosen volunteers in the American Cancer Society Studies of Cancer Survivors. The study by the Atlanta-based researchers included 4,139 adults diagnosed with one of 10 common cancers who were surveyed 10 - 24 months after diagnosis. Results are reported in the journal *Cancer*. Of 19 CAM methods included in the survey, use of relaxation, faith/spiritual healing, and nutritional supplements/vitamins were each reported by more than 40% of respondents. About 10-15 % were involved in meditation, religious counseling, massage, and support groups. CAM methods may well help cancer survivors with pain, fatigue, anxiety, depression, overall psychological adjustment, and overall physical functioning. However, it is notable that although acupuncture helps relieve some symptoms of cancer and some side effects of treatment, it was used by only 1.2 % of participants in this study.

Fasting and chemotherapy (*Proceedings of the National Academy of Sciences USA* 2008; www.reuters.com)

Preclinical laboratory studies suggest that fasting may provide a way to reduce some of the negative effects of chemotherapy in a study published in the *Proceedings of the National Academy of Sciences*. In the study, researchers starved both normal and cancerous human cells in laboratory dishes, then exposed them to chemotherapy drugs. Normal, healthy cells survived the toxic dosage, but the cancer cells did not. Since many of the side effects of chemotherapy are due to killing of the normal cells by the chemotherapy, the researchers speculated that starved cells can resist stress better because they go into a hibernation mode. Tumor cells, which cannot turn themselves off, cannot hibernate. If hibernation protects against toxins, this may explain why starvation protects against chemotherapy. The workers suggest that this approach seems to be a direction that's worth pursuing in clinical trials in humans.

Caution in use of some natural therapies (*Journal of the American Medical Association* 2008; LiveScience.com)

A recent report in the *Journal of the American Medical Association (JAMA)* indicates that more than 20% of about 200 samples of various ayurvedic medicinal preparations contain dangerous amounts of lead, arsenic and mercury. The authors are advocates of alternative medicine and include an ayurvedic practitioner as well as a lead poisoning expert from India. The Ayurvedic Medicine tradition dates back over 7,000 years and incorporates yoga, meditation and diet for a healthy lifestyle. But the safety of some ayurvedic cures have come into question. The message to consumers is to know your source (see additional information on this site at www.canceralternatives.mednet.ucla.edu).

Juices may affect drug efficacy (American Academy of Family Physicians; American Chemical Society Meeting 2008; HealthDayReporter.com)

Grapefruit juice, as well as other common juices, including orange and apple, may alter the body's absorption of drugs, compromising their effectiveness. Those drugs include the anti-cancer drug etoposide and some antibiotics, including ciprofloxacin (Cipro), levofloxacin (Levaquin), and itraconazole (Sporanox). The results of this study require confirmation, but as a general rule it is best to take medications with water, with cool water better than hot to speed the absorption process.

Components in olive oil may suppress breast cancer oncogene (*BMC Cancer* 2008; National Cancer Institute)

Anticancer chemicals in extra-virgin olive oil may help explain the apparent link between eating an olive oil-rich Mediterranean diet and a reduced risk of breast cancer. Extra-virgin olive oil produced by pressing olives without the use of heat or chemical treatments contains certain phytochemicals that are otherwise lost in the refining process. Researchers find that fractions of the olive oil that contained major extra-virgin phytochemical polyphenols effectively inhibited the activity of the breast cancer gene HER-2. However, these preclinical studies need to be viewed with caution as the effects observed in the laboratory were used with doses that are unlikely to be obtained in real life. Work is continuing to test these olive oil components in trials.

Vitamins may not cut cancer risk (*Journal of the American Medical Association*, 2008; *Journal of the National Cancer Institute*, 2009; clinicaltrials.gov)

The results of a number of large randomized trials released late in 2008 and in 2009 suggest that vitamins A, C, and E do not significantly reduce cancer risk. Previous observational studies suggested that a diet high in fruits and vegetables, both of which are rich with antioxidants, may prevent cancer development. However, findings from randomized trials of the association between antioxidant use and cancer risk have been mostly negative. Results of one recent randomized clinical trials based on thousands of participants indicate that dietary supplementation with vitamin C, vitamin E, or beta carotene offers no overall benefits in the primary prevention of total cancer incidence or cancer mortality. In another long-term trial of male physicians, neither vitamin E nor C supplementation reduced the risk of prostate or total cancer. At this time, such data do not support the use of these vitamin supplements for the prevention of cancer.

Hot flushes may predict good results for hormone-based drugs in breast cancer (*Lancet Oncology* 2008)

Menopause-like symptoms (hot flushes, night sweats or painful joints) may signal a reduced risk for tumor recurrence for women using endocrine treatments, such as tamoxifen or anastrozole. Of some 4,000 postmenopausal women taking these drugs and experiencing the menopausal symptoms, about 30% were less likely to have their cancers return after 9 years of medical follow-up. It is not clear if having the symptoms is essential for the treatment to be effective, but the symptoms do seem to indicate likely success of the treatment. Breast cancer is a leading cause of cancer deaths among women worldwide. Reduced death rates from breast cancer in the US are attributed to early detection through mammography screening and to improved treatments.

Antioxidants and chemo-brain (*Metabolic Brain Disease* 2008)

Preclinical studies suggests that antioxidant therapy may help to reduce the memory and attention problems that many cancer patients experience after undergoing chemotherapy. These symptoms are often termed 'chemo-brain'. A new study finds that an antioxidant named N-acety cysteine may have potential to treat these memory changes. Although these findings are promising, patients should not take large doses of antioxidants until randomized clinical trials can be completed. Chemotherapy patients should not self-medicate with antioxidants or take any supplement without first talking to their doctors.

Biodiversity in development of new antitumor treatments

(www.canceralternatives.mednet.ucla.edu; *Journal of the American Medical Association* 2008)

Natural products are a major resource for drug discovery because they have evolved over millions of years to exploit fundamental biological pathways often shared by humans. In addition, the evolutionary process gives rise to products with unsuspected biologic actions, allowing for the development of pharmaceuticals with novel mechanisms of action. For example, the novel chemotherapeutic agent paclitaxel was discovered in the bark of the *Pacific yew tree*, and it has become an important treatment for many cancers. Many new species are yet to be found in the soil, deep oceans, polar regions, and other habitats on our Earth. In the past year alone, more than 1,000 new species were identified, with some found in the most remote locations, such as Antarctica. In addition, about 100 previously unknown species of bacteria were found inhabiting human skin. For this reason, disruption and destruction of fragile ecosystems can impede progress in medicine and biomedical research through the loss of countless unidentified species. The current rate of species extinctions is exceeding our ability to discover and study new species, and this rate of extinction is estimated to be 100- to 1000-fold faster than would occur in the absence of humans. We all share a responsibility to help prevent the loss of biodiversity on our planet. It is critical to petition your fellow citizens and various governmental agencies for comprehensive action throughout our society to protect the environment on which all species, including our own, depend. (see the documentary "Hotspots" on your local PBS station or the DVD for more information; *Sanctuary*, published 2008; Conservation International; World Wildlife Fund).

Searching for a cure (www.HealthNewsDigest.com; www.time.com; www.canceralternatives.mednet.ucla.edu)

Cancer is on track to kill 565,650 people in the US this year—more than 1,500 a day, equivalent to three jumbo jets crashing and killing everyone aboard 365 days a year. In 1971 President Nixon declared war on cancer in his State of the Union speech, and signed the National Cancer Act to make the "conquest of cancer a national crusade." However, in 2008, cancer will take the lives of about 230,000 more Americans—69 % more—than it did in 1971. Actress Christina Applegate, Senator Ted Kennedy, Olympic swimmer Eric Shanteau, and columnist Robert Novak were among the highest profile of the 1.4 million Americans who received a diagnosis of cancer last year. Because the incidence of cancer increases with age, the nearly 80 million baby boomers now emerging into their 60s will probably drive the number even higher. At current rates, 1 in 2 men and 1 in 3 women will eventually have some form of cancer diagnosed. Medicine is making progress, with those who cancer surviving longer, improved surgical techniques and more refined chemotherapies and radiation strategies. Molecular biology advances are leading to new drugs, geared to individual DNA, that block the essential mechanisms of cancer. New biologic agents include Gleevec that treats a cellular defect in one form of leukemia and Herceptin (developed in part by a team of researchers at the UCLA Jonsson Comprehensive Cancer Center) which targets a major defect in about 30% of breast cancers. However, further progress is now being hindered by a significant reduction of federal funding for research efforts. The budget at the National Cancer Institute has been flat over the past several years. Further, the lean times come in a period when the cost of research has outpaced inflation, so there's a double hit. The NIH is able to fund only about 14% (and as few as 5% in some areas) of the research grants requested by scientists and physicians. This lack of funds is leading to a 'brain drain' as trained scientists leave research posts and to a halt in progress toward new treatments. No one in Washington is in favor of more cancer, but attempts to expand the National Cancer Institute's budget have been stymied. It will be the job of the new Congress and the new President to address this crisis.

In the interval, you can register your concern in the battle against cancer by contacting your Senators, Representatives and President Obama and by making a contribution to the *Stiles Program in Integrative Oncology* at the Jonsson Comprehensive Cancer Center at UCLA (contact or send contributions to Dr. R.J. Pietras, UCLA School of Medicine, Medicine-Hem/ Oncology, 11-934 Factor Building, Los Angeles, CA 90095-1678).

Disclaimer: Chemotherapy patients and other individuals/consumers should not self-treat with any natural, supplement or pharmaceutical products without first consulting with their doctors about potential risks and benefits. Similarly, discontinuation of prescribed treatments should not be done without talking to your physician.