Antioxidants cause Malignant Melanoma to Metastasize faster

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New research at Sahlgrenska Academy has found that antioxidants can double the rate of melanoma metastasis in mice. The results reinforce previous findings that antioxidants hasten the progression of lung cancer. According to Professor Martin Bergö, people with cancer or an elevated risk of developing the disease should avoid nutritional supplements that contain antioxidants. Researchers at Sahlgrenska Academy, University of Gothenburg, demonstrated in January 2014 that antioxidants hastened and aggravated the progression of lung cancer. Mice that were given antioxidants developed additional and more aggressive tumors. Experiments on human lung cancer cells confirmed the results. The research community had simply assumed that antioxidants provide protection against the disease. Found in many nutritional supplements, antioxidants are widely marketed as a means of preventing cancer. Because the lung cancer studies called the collective wisdom into question, they attracted a great deal of attention.

The follow-up studies at Sahlgrenska Academy have now found that antioxidants double the rate of metastasis in malignant melanoma, the most perilous type of skin cancer. Science Translational Medicine published the findings on October 7. Professor Bergö says: "The antioxidant boosted the ability of the tumor cells to metastasize, a very serious problem because metastasis is the cause of death in the case of melanoma. The primary tumor is not dangerous per se and is usually removed."

Experiments on cell cultures from patients with malignant melanoma confirmed the new results. "We have demonstrated that antioxidants promote the progression of cancer in at least two different ways," Professor Bergö says. The overall conclusion from the various studies is that antioxidants protect a tumor once it has developed.

Avoid antioxidant supplements if you strongly suspect cancer

Taking nutritional supplements containing antioxidants may unintentionally hasten the progression of a small tumor or premalignant lesion, neither of which is possible to detect. "Previous research at Sahlgrenska Academy has indicated that cancer patients are particularly prone to take supplements containing antioxidants," Dr. Bergö says. Our current research combined with information from large clinical trials with antioxidants suggests that people who have been recently diagnosed with cancer should avoid such supplements."

High mortality rate

One of the fastest expanding types of cancer in the developed world, malignant melanoma has a high mortality rate -- which is one reason that researchers at Sahlgrenska Academy were so anxious to follow up on the lung cancer studies. "Identifying factors that affect the progression of malignant melanoma is a crucial task," Professor Bergö says.

Lotions next

The role of antioxidants is particularly relevant in the case of melanoma because the cells can be exposed to antioxidants by non-dietary means as well. "Skin and suntan lotions sometimes contain beta carotene or vitamin E, both of which could potentially affect malignant melanoma cells in the same way as antioxidants in nutritional supplements," Professor Bergö says.

Other forms of cancer

How antioxidants in lotions affect the course of malignant melanoma is currently being explored. "We are testing whether antioxidants applied directly to malignant melanoma cells in mice hasten the progression of cancer in the same way as their dietary counterparts," Professor Bergö says. He stresses that additional research is badly needed. "Granted that lung cancer is the most common form of the disease and melanoma is expanding fastest, other forms of cancer and types of antioxidants need to be considered if we want to make a fully informed assessment of the role that antioxidants play in the process of cancer progression."

Ref:

Journal Reference:1. K. Le Gal, M. X. Ibrahim, C. Wiel, V. I. Sayin, M. K. Akula, C. Karlsson, M. G. Dalin, L. M. Akyurek, P. Lindahl, J. Nilsson, M. O. Bergo. Antioxidants can increase melanoma metastasis in mice. Science Translational Medicine, 2015; 7 (308): 308re8 DOI: 10.1126/scitranslmed.aad3740

THE NUMBER one oxidant is Oxygen

Anti-oxidants work against Oxygen

There is a time for all things under heaven

Balance again is key

Anti-oxidants are very good for most people to stop excess free radicals. But the number one free radical is O2 (air oxygen) so too much is a bad thing

Years ago I had a client who had tried to climb Mount Everest three times and failed each time. He had permission to try one more time and he came to me for help.

He had been prescribed massive amounts of anti-oxidants. I told him THE NUMBER one oxidant is Oxygen. Anti-oxidants work against Oxygen. I gave him the B15 sport Oxygen formula and he made it to the top. Balance again is key. Knowing when is better. There is a time for all things under Heaven.

HEALTH BENEFITS OF ANTIOXIDANTS AND THEIR FOOD SOURCES

Antioxidant	Health benefits	Food sources
Selenium	Helps maintain healthy hair and nails, enhances immunity, works with vitamin E to protect cells from damage. Reduces the risk of cancer, particularly lung, prostate, and colorectal.	Garlic, seeds, Brazil nuts, meat, eggs, poultry, seafood, whole grains. The amount in plant sources varies according to the content of the soil.
Beta-carotene	Keeps skin healthy, helps prevent night blindness and infections, promotes growth and bone development.	Red, yellow-orange, and leafy green vegetables and fruits, including carrots, apricots, cantaloupe, peppers, tomatoes, spinach, broccoli, sweet potatoes, and pumpkin.
Vitamin E	Acts as the protector of essential fats in cell membranes and red blood cells. Reduces risk of cancer, heart disease, and other age-associated diseases.	Peanut butter, nuts, seeds, vegetable oils and margarine, wheat germ, avocado, whole grains, salad dressings.
Vitamin C	Destroys free radicals inside and outside cells. Helps in the formation of connective tissue, the healing of wounds, and iron absorption, and also helps to prevent bruising and keep gums healthy. May reduce risk of cataracts, heart disease, and cancer.	Peppers, tomatoes, citrus fruits and juices, berries, broccoli, spinach, cabbage, potatoes, mango, papaya.

SOURCE: The American Dietetic Association And WebMD.

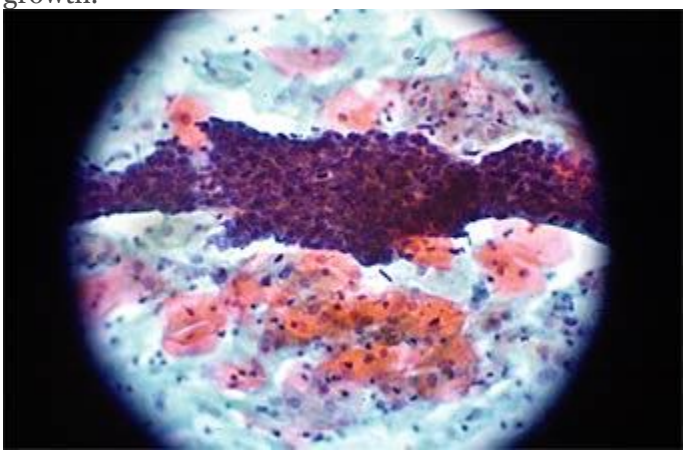
Dietary Antioxidants Spreads Cancer Further: Study

Once again scientists have come up with a study that too, similar to earlier few, raises questions on the consumption of antioxidants. They say the substance that comes in eating and drinking items like green tea, leafy veggies and acai berries are not good for you if you have cancer, as it is claimed, but it spreads cancers.

"The idea that antioxidants are good for you has been so strong that there have been clinical trials done in which cancer patients were administered antioxidants," said Dr. Sean Morrison in a statement, explaining that some trials had to be stopped because the patients getting the antioxidants were dying faster. "Our data suggest the reason for this: Cancer cells benefit more from antioxidants than normal cells do."

Details of the study are published in the Nature journal and it writes the vitamins C and E and beta-carotene-based antioxidants that is believed to protect cells from damage also works magic on cancerous cells.

Researchers at the University of Texas Southwestern Medical Center said the antioxidants is great for normal cells, but to cancerous cells it works like turbo-charging those and boosting it with faster growth.



The researchers conducted the experiment on lab mice by giving doses of common antioxidant, N-acetylcysteine (NAC), which is used in nutritional and bodybuilding supplements and it has also been used in the treatment of HIV/AIDS and certain genetic disorders too in some children.

"We discovered that metastasising melanoma cells experience very high levels of oxidative stress, which leads to the death of most metastasizing cells. Administration of antioxidants to the mice

allowed more of the metastasizing melanoma cells to survive, increasing metastatic disease burden," says Morrison.

Morrison is the director of the Children's Medical Center Research Institute at UT Southwestern. He added further study is required to find whether antioxidants need to be consumed as part of a healthy diet though personally he would avoid the supplements in his diet.

There have been regular studies for past 20 years on the effect of antioxidants on conditions ranging from memory loss to heart disease.

A time to use Anti-Oxidants, and a Time to Avoid them

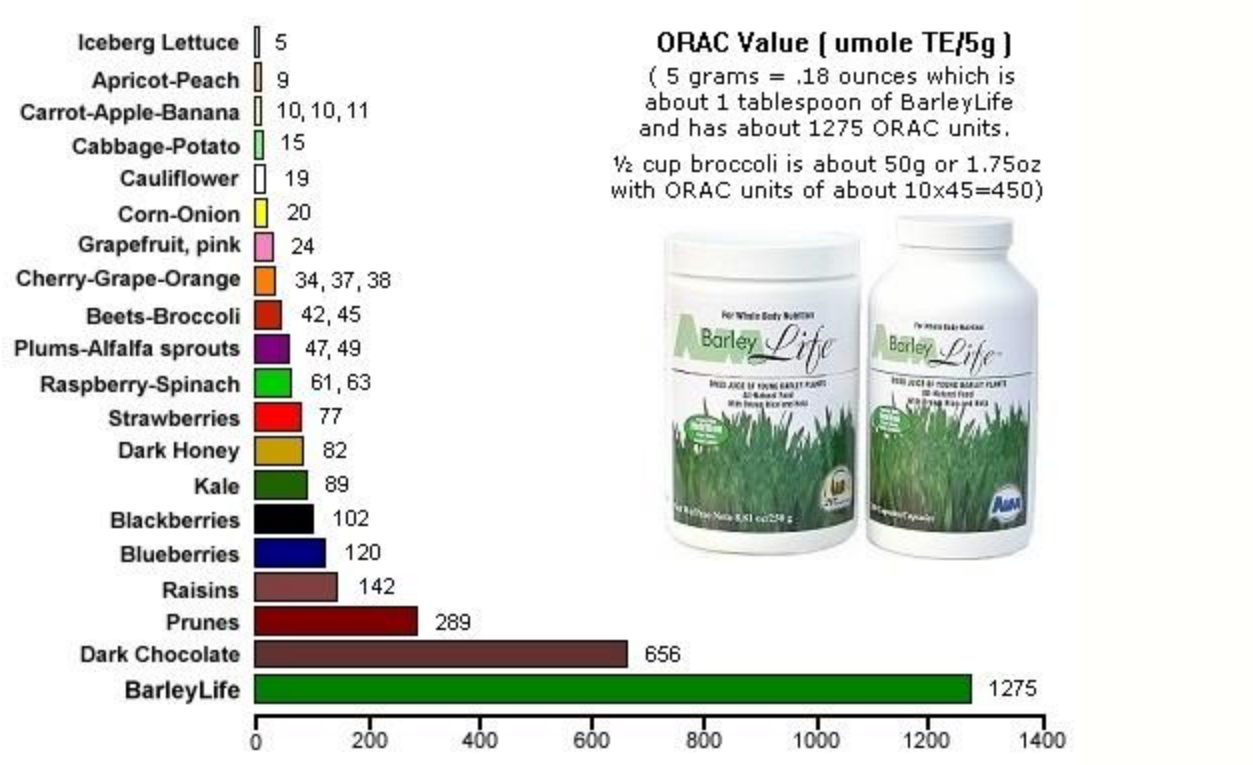
Antioxidants and Cancer Prevention

What are free radicals, and do they play a role in cancer development?

Free radicals are highly reactive chemicals that have the potential to harm cells. They are created when an atom or a molecule (a chemical that has two or more atoms) either gains or loses an electron (a small negatively charged particle found in atoms). Free radicals are formed naturally in the body and play an important role in many normal cellular processes (1,2). At high concentrations, however, free radicals can be hazardous to the body and damage all major components of cells, including DNA, proteins, and cell membranes. The damage to cells caused by free radicals, especially the damage to DNA, may play a role in the development of cancer and other health conditions (1,2).

Abnormally high concentrations of free radicals in the body can be caused by exposure to ionizing radiationand other environmental toxins. When ionizing radiation hits an atom or a molecule in a cell, an electron may be lost, leading to the formation of a free radical. The production of abnormally high levels of free radicals is the mechanism by which ionizing radiation kills cells. Moreover, some environmental toxins, such as cigarette smoke, some metals, and high-oxygen atmospheres, may contain large amounts of free radicals or stimulate the body's cells to produce more free radicals.

Free radicals that contain the element oxygen are the most common type of free radicals produced in living tissue. Another name for them is "reactive oxygen species," or "ROS" (1,2).



What are antioxidants?

Antioxidants are chemicals that interact with and neutralize free radicals, thus preventing them from causing damage. Antioxidants are also known as “free radical scavengers.”
The body makes some of the antioxidants it uses to neutralize free radicals. These antioxidants are calledendogenous antioxidants. However, the body relies on external (exogenous) sources, primarily the diet, to obtain the rest of the antioxidants it needs. These exogenous antioxidants are commonly called dietary antioxidants. Fruits, vegetables, and grains are rich sources of dietary antioxidants. Some dietary antioxidants are also available as dietary supplements (1,3). Examples of dietary antioxidants include beta-carotene, lycopene, and vitamins A, C, and E (alpha-tocopherol). The mineral element selenium is often thought to be a dietary antioxidant, but the antioxidant effects of selenium are most likely due to the antioxidant activity of proteins that have this element as an essential component (i.e., selenium-containing proteins), and not to selenium itself (4).

Can antioxidant supplements help prevent cancer?

In laboratory and animal studies, the presence of increased levels of exogenous antioxidants has been shown to prevent the types of free radical damage that have been associated with cancer

development. Therefore, researchers have investigated whether taking dietary antioxidant supplements can help lower the risk of developing or dying from cancer in humans. Many observational studies, including case–control studies and cohort studies, have been conducted to investigate whether the use of dietary antioxidant supplements is associated with reduced risks of cancer in humans. Overall, these studies have yielded mixed results (5). Because observational studies cannot adequately control for biases that might influence study outcomes, the results of any individual observational study must be viewed with caution.

Randomized controlled clinical trials, however, lack most of the biases that limit the reliability of observational studies. Therefore, randomized trials are considered to provide the strongest and most reliable evidence of the benefit and/or harm of a health-related intervention. To date, nine randomized controlled trials of dietary antioxidant supplements for cancer prevention have been conducted worldwide. Many of the trials were sponsored by the National Cancer Institute. The results of these nine trials are summarized below.

- **Linxian General Population Nutrition Intervention Trial**: This trial was the first large-scale randomized trial to investigate the effects of antioxidant supplements on cancer risk. In the trial, healthy Chinese men and women at increased risk of developing esophageal cancer and gastric cancer were randomly assigned to take a combination of 15 milligrams (mg) beta-carotene, 30 mg alpha-tocopherol, and 50 micrograms (µg) selenium daily for 5 years or to take no antioxidant supplements. The initial results of the trial showed that people who took antioxidant supplements had a lower risk of death from gastric cancer but not from esophageal cancer. However, their risks of developing gastric cancer and/or esophageal cancer were not affected by antioxidant supplementation (6).

  In 2009, 15-year results from this trial were reported (10 years after antioxidant supplementation ended). In the updated results, a reduced risk of death from gastric cancer was no longer found for those who took antioxidant supplements compared with those who did not (7).
- **Alpha-Tocopherol/Beta-Carotene Cancer Prevention Study (ATBC)**: This trial investigated whether the use of alpha-tocopherol and/or beta-carotene supplements for 5 to 8 years could help reduce the incidence of lung and other cancers in middle-aged male smokers in Finland. Initial results of the trial, reported in 1994, showed an *increase* in the incidence of lung cancer among the participants who took beta-carotene supplements (20 mg per day); in contrast, alpha-tocopherol supplementation (50 mg per day) had no effect on lung cancer incidence (8). Later results showed no effect of beta-carotene or alpha-tocopherol supplementation on the incidence of urothelial (bladder, ureter, or renal pelvis), pancreatic, colorectal, renal cell (kidney), or upper aerodigestive tract (oral/pharyngeal, esophageal, or laryngeal) cancers (9,10,11,12).
- **Carotene and Retinol Efficacy Trial (CARET)**: This U.S. trial examined the effects of daily supplementation with beta-carotene and retinol (vitamin A) on the incidence of lung cancer, other cancers, and death among people who were at high risk of lung cancer because of a history of smoking or exposure to asbestos. The trial began in 1983 and ended in late 1995, 2 years earlier than originally planned. Results reported in 1996 showed that daily supplementation with both 15 mg beta-carotene and 25,000 International Units (IU) retinol was associated with increased lung cancer and increased death from all causes (all-cause mortality) (13). A 2004 report showed that these adverse effects persisted up to 6 years after supplementation ended, although the elevated risks of lung cancer and all-cause mortality were no longer statistically significant (14). Additional results,

reported in 2009, showed that beta-carotene and retinol supplementation had no effect on the incidence of prostate cancer (15).

- **Physicians' Health Study I (PHS I)**: This trial examined the effects of long-term beta-carotene supplementation on cancer incidence, cancer mortality, and all-cause mortality among U.S. male physicians. The results of the study, reported in 1996, showed that beta-carotene supplementation (50 mg every other day for 12 years) had no effect on any of these outcomes in smokers or nonsmokers (16).
- **Women's Health Study (WHS)**: This trial investigated the effects of beta-carotene supplementation (50 mg every other day), vitamin E supplementation (600 IU every other day), and aspirin (100 mg every other day) on the incidence of cancer and cardiovascular disease in U.S. women ages 45 and older. The results, reported in 1999, showed no benefit or harm associated with 2 years of beta-carotene supplementation (17). In 2005, similar results were reported for vitamin E supplementation (18).
- **Supplémentation en Vitamines et Minéraux Antioxydants (SU.VI.MAX) Study**: This trial investigated the effects of daily supplementation with a combination of antioxidants and minerals on the incidence of cancer and cardiovascular disease in French men and women. The initial results of the study, reported in 2004, showed that daily supplementation with vitamin C (120 mg), vitamin E (30 mg), beta-carotene (6 mg), and the minerals selenium (100 µg) and zinc (20 mg) for a median of 7.5 years had no effect on the incidence of cancer or cardiovascular disease or on all-cause mortality (19). However, when the data for men and women were analyzed separately, antioxidant and mineral supplementation was associated with lower total cancer incidence and all-cause mortality among men but not among women, and with an increase in skin cancer incidence, including melanoma, among women but not among men (19,20). The beneficial effects of the supplements for men disappeared within 5 years of ending supplementation, as did the increased risk of skin cancer among women (21,22).
- **Heart Outcomes Prevention Evaluation–The Ongoing Outcomes (HOPE–TOO) Study**: This international trial examined the effects of alpha-tocopherol supplementation on cancer incidence, death from cancer, and the incidence of major cardiovascular events (heart attack, stroke, or death from heart disease) in people diagnosed with cardiovascular disease or diabetes. The results, reported in 2005, showed no effect of daily supplementation with alpha-tocopherol (400 IU) for a median of 7 years on any of the outcomes (23).
- **Selenium and Vitamin E Cancer Prevention Trial (SELECT)**: This U.S. trial investigated whether daily supplementation with selenium (200 µg), vitamin E (400 IU), or both would reduce the incidence of prostate cancer in men ages 50 and older. The study began in 2001 and was stopped in 2008, approximately 5 years earlier than originally planned. Results reported in late 2008 showed that the use of these supplements for a median duration of 5.5 years did not reduce the incidence of prostate or other cancers (24). Updated findings from the study, reported in 2011, showed that, after an average of 7 years (5.5 years on supplements and 1.5 years off supplements), there were 17 percent more cases of prostate cancer among men taking vitamin E alone than among men taking a placebo (25). No increase in prostate risk was observed for men assigned to take selenium alone or vitamin E plus selenium compared with men assigned to take a placebo (24).
- **Physicians' Health Study II (PHS II)**: This trial examined whether supplementation with vitamin E, vitamin C, or both would reduce the incidence of cancer in male U.S. physicians ages 50 years and older. The results, reported in 2009, showed that the use of these supplements (400 IU vitamin E every other day, 500 mg vitamin C every day, or a combination of the two) for a median of 7.6 years did not reduce the incidence of prostate cancer or other cancers, including lymphoma, leukemia, melanoma, and cancers of the lung, bladder, pancreas, and colon and rectum (26).

Overall, these nine randomized controlled clinical trials did not provide evidence that dietary antioxidant supplements are beneficial in primary cancer prevention. In addition, a systematic

review of the available evidence regarding the use of vitamin and mineral supplements for the prevention of chronic diseases, including cancer, conducted for the United States Preventive Services Task Force (USPSTF) likewise found no clear evidence of benefit in preventing cancer (27).

It is possible, however, that the lack of benefit in clinical studies can be explained by differences in the effects of the tested antioxidants when they are consumed as purified chemicals as opposed to when they are consumed in foods, which contain complex mixtures of antioxidants, vitamins, and minerals (3). Therefore, acquiring a more complete understanding of the antioxidant content of individual foods, how the various antioxidants and other substances in foods interact with one another, and factors that influence the uptake and distribution of food-derived antioxidants in the body are active areas of ongoing cancer prevention research.

Should people already diagnosed with cancer take antioxidant supplements?

Several randomized controlled trials, some including only small numbers of patients, have investigated whether taking antioxidant supplements during cancer treatment alters the effectiveness or reduces the toxicity of specific therapies (28). Although these trials had mixed results, some found that people who took antioxidant supplements during cancer therapy had worse outcomes, especially if they were smokers.

Additional large randomized controlled trials are needed to provide clear scientific evidence about the potential benefits or harms of taking antioxidant supplements during cancer treatment. Until more is known about the effects of antioxidant supplements in cancer patients, these supplements should be used with caution. Cancer patients should inform their doctors about their use of any dietary supplement.

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There is an appointed time for everything.
And there is a time for every event .....

A time to **give birth** and a time to **die**;
A time to **plant** and a time to **uproot** what is planted.

A time to **kill** and a time to **heal**;
A time to **tear down** and a time to **build up**.

A time to **weep** and a time to **laugh**;
A time to **mourn** and a time to **dance**.

A time to **throw stones** and a time to **gather** stones;
A time to **embrace** and a time to **shun** embracing.

A time to **search** and a time to **give up** as lost;
A time to **keep** and a time to **throw away**.

A time to **tear** apart and a time to **sew** together;
A time to be **silent** and a time to **speak**.

A time to **love** and a time to **hate**;
A time for **war** and a time for **peace**.

Ecclesiastes 3:1-8

And a Time To Give a Sugar Coated Message

Desire 'Dubounet