Can Supplements Cure or Prevent Cancer?

There's a lot you can do! And it's just a lot simpler than most people expect it to be.

August 5, 2017 By Danielle Penick

When I meet a cancer patient for the first time, one of the more common questions I hear is "what can I change in my diet to help me get rid of my cancer?" As a registered dietitian, I am a strong advocate for eating a well-balanced diet. Yet I've found that the topic of supplements inevitably comes up. If you do a Google search for cancer and supplements (or natural therapies), numerous webpages populate that claim to be miracle cures, promising to do more than a prescription drug to get rid of cancer in a natural, affordable way. My patients want to be proactive and learn more about what they can do to help their chances of recovery so I understand why supplements have their appeal. However, despite the many claims that certain supplements can cure cancer, there is little to no scientific evidence to support these claims.

The supplement industry brings in $35 billion a year and just like any other business, it seeks to make a profit. I write more about the supplement industry in my other supplement posts for more information. If a website or supplement claims to do the same thing or more than a prescription drug, you should be very skeptical and very doubtful. You should also avoid products that claim to be "miracle cures" with breakthroughs or new discoveries that are based on a "secret ingredient" or "secret method," as there is likely no science to back up these claims.

Currently, the American Institute of Cancer Research (AICR) doesn't recommend using any supplement to try to cure cancer. If you visit the American Cancer Society and National Cancer Institute's websites you can type in supplements in the search box for additional information. These are reputable resources that rely on scientific research from peer-reviewed journals. Quackwatch is also another website that I often use as a reliable source of information. Another oncology dietitian, Julie Lanford, who has a blog called Cancer Dietitian also recommends this site. "Quackwatch is an international network of people who are concerned about health-related frauds, myths, fads, fallacies, and misconduct". Check it out for more information on a particular topic of your interest.

To date, up to 81% of adult cancer patients are taking at least one dietary supplement? Some of these supplements may be helpful and necessary and some of them may in fact be harmful. It's important to take them only if you need them for a true deficiency or to aid in managing side effects as recommended by your oncologist or oncology dietitian.

What do we know about vitamin supplementation and preventing cancer?

Currently no peer-reviewed research has shown a significant benefit for any supplement to cure cancer and in fact research has indicated that supplements can actually be harmful than beneficial to those with cancer. Once a person is not vitamin deficient (vitamin and mineral deficiencies in America are probably not as common as some websites may have you believe) there is little evidence to support that vitamin and mineral supplementation beyond the recommended levels has any significant beneficial impact on cancer risk or for general health. We are inclined to think that normal, high, or mega doses of natural products will make us healthier or prevent cancer or other illnesses, but more than what is in a standard healthy diet is not always better.

Rigorous clinical trials have been conducted on many vitamin and mineral supplements. While some studies show a link between certain supplements and health outcomes (example: Vitamin D3 and Calcium for prevention of osteoporosis), most studies are inconclusive at best or even show a harmful effect.

Several meta-analyses, which are studies that combine and re-analyze results from multiple studies on a particular subject, conclude that there are no significant difference in groups that take dietary supplements versus those that do if there is no deficiency. What's more, is that some studies found that there is an increased risk of certain conditions including cancer in groups who have taken supplements versus those who have not. These studies will be discussed in the next few paragraphs.

The Journal of the American Medical Association published a study that was conducted on over 35,000 relatively healthy men to determine the long-term effect of vitamin E and selenium supplementation on the risk of developing prostate cancer called the SELECT trial. Men were taking these supplements between 7 and 11 years. Results from the SELECT trial study revealed that selenium and Vitamin E supplementation did not reduce prostate cancer risk. The vitamin E with placebo group actually increased their risk of prostate cancer by 17% and the selenium with placebo group saw an increase in type 2 diabetes. Though the results weren't considered statistically significant, these men were told to stop their supplementation earlier in the study than expected as to not cause potential harm. Supplements are often thought not to cause harm, but this study determined that this might not always be true.

Another landmark study published in the New England Journal of Medicine, called the ATBC study, randomized over 29,000 heavy-smoking males to either the alpha-tocopherol (vitamin E) or beta-carotene (vitamin A) group to determine if these vitamins could prevent developing lung cancer in this high risk population. They were each followed for 5 to 8 years. Vitamin E and A are considered antioxidants and there was speculation as to whether or not this may help prevent lung cancer in a population that was at high risk for it. This study was conducted as prior studies have shown that foods high in these vitamins are associated with a reduced risk in lung cancer. The results from this research showed an increase in lung cancer death in the group with high doses of vitamin A. This study also had to be stopped due to ethical concerns of people getting lung cancer with increased mortality during the study. There was no effect on the vitamin E group.

When is it a good idea to take a supplement?

Overall, whole foods are the best source of vitamins and minerals for our bodies, and are the safest way of consuming them. Vitamin supplementation can be beneficial in certain stages of life, with certain medical conditions, or for specific diets, deficiencies, or to manage side effects from cancer treatment, but otherwise as a normal, healthy adult, eating a variety of foods can generally provide us with all of the nutrition that we need. If you have a nutrient deficiency or are missing out on certain food groups in your diet, it is important to do adequate research and to speak with a professional in the medical field about vitamin recommendations to determine if you truly need a supplement.

Some supplements may be less researched and we are unaware of long-term effects that they may cause at this time. Many can have false claims, promising to improve strength, provide energy, cure cancer or make your hair and nails stronger etc… If someone is eating a varied diet and taking a supplement on top of that, it may cause toxicity if the tolerable upper levels are reached, something that usually is seen only with over-supplementation. I recently listened to a podcast called Gastropod that did a thorough job of presenting similar information. It's a fun listen if you have the time: V is for Vitamin.

With that being said though, oncology patients are more at risk for true vitamin and mineral deficiencies as a result of side effects from treatment and if malnutrition is present due to inability to consume enough food secondary to nausea, vomiting, mouth sores, taste changes, and fatigue. Your oncologist should be monitoring your labs regularly and are generally good about letting you know if you need additional potassium, magnesium, phosphorus, calcium or vitamin D3 supplementation, etc… If you meet with a dietitian about this and food interventions prove to be inadequate then you may need a supplement temporarily or even longer term.

Final Thoughts

The take-home message is to eat a well-balanced diet with many plant-based foods, exercise regularly, only take supplements if prescribed by your doctor for a true deficiency and/or to manage potential side effects from treatment, and speak with the pharmacist about potential med interactions and for timing of supplementation. It's not uncommon for people to feel deflated when I share this information. Initially I thought my patients would view this positively as I was saving them money, but I've come to realize people usually like to be proactive and to feel like they are doing something to make themselves better. If I discourage supplements, many feel like there isn't much they can do. The good news is there's a lot you can do! It's just a lot simpler than most people expect it to be. Eat fewer highly processed foods, eat more plants, eat less red meat, eat less processed sugar, and move more. It will do more for you than most any supplement can do for you.

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