Nutrition and Supplements During Cancer Treatment and Beyond

Although there is no magic supplement regime to prevent or treat cancer, there is enough evidence that certain nutrients, phytochemicals, fatty acids, hormones, and enzymes can improve a cancer patients quality of life by reducing the side effects of the drugs. Everyones are different and respond differently to nutrition so its advisable to seek advice of a health professional experienced in cancer treatment.

In this show Dr. Donald Abrams, an oncologist and integrative medicine specialist take a deep dive into the subject.

Full Transcript:

Priya : Good evening, everyone! Welcome to the Cure Panel Talk Show. I am Priya Menon, Scientific Media Editor of the CureTalk Blog, joining you from India, and I welcome all of you this evening to a discussion on cancer and nutrition. Before I begin, I would like to wish everyone here a very happy 2014. This is our third episode on cancer and nutrition talk space. In our previous episode, we discussed diet and myeloma with research scientist and zen priest, Danny Parker. Today, we are discussing nutrition and supplements during cancer treatment and beyond. We all know that cancer is a multi-faceted enemy with a number of potential causes. Unfortunately, there is no magic supplement on either to prevent or treat cancer. However, there is sufficient evidence that certain nutrients, phytochemicals, fatty acids, hormones, and enzymes can play a major role. Finding the right combination of nutrients for an individual is a highly personal matter that should employ the advice of a health professional experienced in cancer treatment and today we have with us Dr. Donald Abrams. Dr. Donald Abrams is a cancer and integrative medicine specialist at the UCSF Osher Center for Integrative Medicine at Mount Zion. Abrams provides integrative medicine consultations for cancer patients and has completed research in complementary and alternative therapy including mind-body treatment, botanical therapy, medical use of marijuana, and traditional Chinese medicine herbal therapy. In addition to his role at the Osher Center, he is chief of Hematology and Oncology at San Francisco General Hospital. Great having you with us, Dr. Abrams. Welcome to the show.

Dr. Abrams : Thank you. It's a pleasure to be on.

Priya : The co-host of today's show is Pat Killingsworth. Pat is a myeloma survivor and has authored four books on myeloma. He has two popular blogs where he writes about myeloma and cancer. Welcome to the show, Pat.

Pat : You're welcome, Priya.

Priya : Thanks. We have an international panel of experts and patients joining us today. Nancy Shamanna is joining us from Canada. Nancy is a four-year myeloma survivor. She writes a column about her experiences with myeloma, The Myeloma Beacon. We also have with us Beverly McKee, also known as a breast cancer warrior. Beverly is an author, blogger, and inspirational speaker. She combines her clinical skills and personal experience with stage III breast cancer to deliver a message of hope, education, and inspiration to her worldwide following through social media and speaking engagements. We have with us from India, Shweta Mishra. Shweta is a biochemist and nutritionist, currently teaching diabetes, pathophysiology, and glucose biochemistry to nutritionists aspiring to be diabetes educators and also heads the nutrition department of a hospital in India. Welcome to the show, everyone. Before I hand over to Pat, I would like to remind everyone listening that we will be addressing questions received via email from our audience at the end of the discussion. If you have a question for our experts or panel, you can press 1 on your keypad and we will bring you live on air to ask your question. I begin with the discussion. Pat, you are live on air.

Pat: Welcome, everyone, and Doctor, thank you for taking the time to share with us tonight. Much appreciate it.

Dr. Abrams : Sure.

Pat : Do you have… Would you like to do a little intro or do you want us to just jump into the questions?

Dr. Abrams : Ahhh… Well, I am Donald Abrams. I am Chief of Oncology at San Francisco General Hospital. I have been an oncologist now for 31 years, and at the beginning of my training suddenly AIDS came out of the blue and we didn't know what to do with it or what it was. So, I became a champion of alternative therapy as we had no conventional therapy to be alternative to really and when we got conventional therapy in 1986, I thought this isn't very good. So, I wrote all the chapters in all the AIDS textbooks on complementary and alternative medicine. Then in 1992, somebody challenged me to study medicinal cannabis or marijuana in patients with the AIDS wasting syndrome, so I picked up to go on it and did that and learnt a lot about plants, which gave me a strong appreciation for the power of plants with medicines, which ultimately took me to the Telluride Mushroom Festival in Telluride, Colorado, where I met Andrew Weil and heard about a two-year fellowship in integrative medicine that you can do online from his program in integrative medicine at the University of Arizona and I did that and after completing that fellowship in 2004, I basically said I am done with HIV AIDS, what I would like to do now is integrative oncology, working with people living with and beyond cancer, and helping them to integrate these other modalities into their conventional care. I can't really do that at San Francisco General where as I often say for most of my patients cancer is the least of their problems because they are homeless, psychotic, addicted, or undocumented, so I can't tell them to eat organic and do yoga, so I came to our Center for Integrative Medicine at the University of California where I practiced integrative oncology. What I tell my patients is that cancer is like a weed and other people are taking care of their weed and it's my job to work with the garden and make their soil as inhospitable as possible to grow such spread of the weed. So, that's what I do.

Pat : Well, that's amazing and it's rare to find a physician with a background like yours, so I think we should take advantage of it and jump right in. I got a chance to review the questions from both our panelists and some listeners who emailed their questions to Priya and there are so many great ones. I am the one who is going to ask one question I guess and I having just returned from ASH and hematology meeting and everything is buttoned up and documented and there's trial after trial and I guess my question is how do we, in an area where, you know, the drug companies aren't supporting research and ongoing clinical trials, how does the patient know what's safe and how to use it?

Dr. Abrams : Well, I think that's a very good question and I just hung up from a patient who told me that everything I told her to take, when she went across the street to the cancer center, the pharmacist there said, "Are you kidding? You shouldn't take that. This will damage your liver. This will make you bleed. This will get you infected." So, you know, people get conflicting information and I guess, you know, the real answer to that question is that we don't have all the evidence that we need in integrative medicine or integrative oncology, but Andrew Weil says the degree of evidence should be directly proportional to the potential of the

intervention to do harm. So, if I am going to tell you let's try this new chemotherapy drug, your hair is going to fall out, you are going to be vomiting for four days, and your bone marrow is going to be suppressed, you are going to say, show me the evidence that it works. If I am going to tell you that get to a massage place or eat more blueberries, you know, how much damage can that do and how much money do we need to spend and resources to produce evidence that in fact it is beneficial.

So, in answer to your question, the one way that I know best, that integrative interventions are useful is because when I first opened my practice here, most of my patients came to me via word of mouth or through the internet and now most of my patients are referred by my colleague at the cancer center across the street because I believe that my friends in conventional oncology perceive that the patients that I am co-managing with them using integrative interventions maybe do better than patients who don't, but it's very difficult to test integrative oncology because it's a whole system as we say and our major funder of research in the United States is The National Institute of Health and they are very, very reductionist, so if I say can I study an integrative oncology approach to see how patients do, they will say, no, no what is that and to how about nutrition, no, no, what do you mean by that? How about fruits and vegetables, no, no, what does that mean? How about cruciferous vegetables, no, no, we can't fund that. How about sulforaphane, yay! Now, they can fund the effect of sulforaphane, but in no way is that integrative oncology.

Pat : Sure, sure and it's both uplifting and a downer at the same time. (Laughter)

Dr. Abrams : Yeah. Yeah. Welcome to our world.

Pat : Sure and it's difficult, like you said, where there are so many things involved, it's hard to isolate one thing and say this helps or that helps and….

Dr. Abrams : Well, for example, I just saw a patient today who told me that she saw a pain specialist and the pain specialist said she should not get acupuncture because that would spread her cancer. I mean, I couldn't believe that. I mean acupuncture is something really that has been pretty well studied and there is an increasing body of evidence that acupuncture is very beneficial for cancer patients in a number of different symptom managements, including pain and to come up with, you know, such an archaic belief, sort of like people used to say that massage spreads cancer too and now these things just are not correct.

Pat : Sure. Yeah. I can only imagine from the roadblocks that you face and we have someone on our panel this evening from Canada. Let's get some questions from a Canadian perspective. Nancy?

Nancy : Oh, hi! Thank you very much for having me on the show, Priya and Pat, and I am sure that this will be very interesting, Dr. Abrams, from your introduction, just fascinating. Should I ask my first question now?

Dr. Abrams : Yes, please.

Nancy : Yeah. Well, I am a multiple myeloma patient and I have had a lot of chemotherapy treatments, including Velcade, Revlimid, and stem cell transplant and those put me into a remission and I haven't taken any medication for almost three years, but I have now a low level of monoclonal protein in my blood. Could I be taking some supplements to help with, I have read that many patients take curcumin with turmeric to try to keep the myeloma at bay and not only do patients with active disease take curcumin but also patients with MGUS or smoldering myeloma, precursors to the disease. We do use a lot of turmeric in our home diet. You can buy it frozen and grate it into meal. Do you have any insight into the use of curcumin?

Dr. Abrams : Curcumin is the active ingredient in turmeric and I recommend for most of my patients turmeric. Again, this is something the patient I just spoke to on the phone was advised not to take by the pharmacist across the street, because she said it would lead to increased bleeding, something I have never heard of. Turmeric, in looking at why the large population of India has such a low rate of both cancer and dementia, people have sort of focused on turmeric as being a very potent anti-inflammatory predominantly, and then possibly an anti-cancer spice. I have not heard anything about turmeric for MGUS or for myeloma

in particular. The first I learned of turmeric having anti-cancer activity was at ASCO, The American Society of Clinical Oncology, in about 2006 when investigators from Ohio State reported on a mouse model of colon cancer that was very responsive to turmeric supplementation, in that these mice are genetically programmed to develop colon cancer, but when they were fed a diet enriched in turmeric, not only do they not develop colon cancer, but they survive longer than the controlled animal.

So, subsequently most of the research and interest in turmeric has been for gastrointestinal malignancies and it's also been looked at by one of my former fellows, Navneet Dhillon, when she was at MD Anderson, in a small study in patients with pancreatic cancer where it didn't seem to have that much effect against the very difficult malignancy, but I think it has greatest potential in the gastrointestinal malignancies mainly because by itself it's not absorbed so well from the GI tract, so the expectation for it to have a systemic effect on something like myeloma or MGUS is maybe asking too much and that's why I think it works best in the GI tract, now personally for my arthritis I take a curcumin preparation that has piperine, which is the active ingredient in black pepper, which increases the absorption of the turmeric a thousand fold, which gives me a systemic level that provides anti-inflammatory effect for my arthritis and I know there are a number of curcumin and turmeric preparations that are being formulated so that they are more absorbable so

Nancy : Hmm, thank you. Would you be kind enough to share the product name of the turmeric or the curcumin?

Dr. Abrams : Now, I don't know. Is that a good thing to do on air? Am I allowed to do that?

I don't know. I…

Dr. Abrams : Can we have some input?

I guess they have some

Pat: Yeah, why not?

Dr. Abrams : Yeah, well, what I use is Swanson curcumin complex and I order it online.

Nancy : Okay. Thank you.

Pat : And, doctor, could you spell piperine for us, please?

Dr. Abrams : P-i-p-e-r-i-n-e, black pepper.

Nancy : Well, that's pretty helpful.

Pat : How, Nancy is correct. Myeloma patients all over the world are starting to take curcumin 2 g, 3 gm, up to 8 g a day.

Dr.Abrams : On the basis of what evidence?

You know, you get things on the internet, things get on the internet and I have never seen…

Pat : No, no, no… This is several studies, (hmmm) one of which I saw at ASH also.

Dr.Abrams : Okay.

Pat : But, like you said it's hard to (yeah) translate how much to take, no one seems to know how much to take. MD anderson did a study on it. That's right.

Dr. Abrams : Because it's not absorbable to take.

Sorry.

Pat : Go ahead, Nancy. Do you have any other questions?

Nancy : Yeah. Well, I do have quite a few questions, but I don't want to take up too much time, but I'll ask one more. This one was about calcium supplements. One of the side effects of having active myeloma can be colon destruction and we are not allowed to take calcium supplements if our calcium is higher than in the normal ranges which happen sometime. I was thinking calcium supplements and then my calcium became abnormally high, so I had to stop taking the calcium supplement, but what would you recommend as the most important source of the calcium in the diet that I could be taking?

Dr. Abrams : Well, I am, firstly, not a fan of dairy which is the most potent source of calcium. I advise my patients not to consume dairy products, but they are the richest source of calcium in the diet. After that, you get into green leafy vegetables, tofu, things like that. I personally drink, as long as we are doing product name, a German mineral water, Gerolsteiner, and each glass giving me 10% of my daily calcium supplementation. Personally, I believe vitamin D supplementation is quite important as well, so just to make sure (yeah) that you are getting your calcium, you know, making sure you have your adequate vitamin D level, although again as you say, myeloma patients can get into trouble with hypercalcemia or elevated blood calcium, so I am not sure, you know, how much vitamin D supplementation one wants in that situation because that does increase the absorption of calcium.

Nancy : Well, speaking for myself and probably for most myeloma patients, we do get our blood tested quite frequently, at least every three months or I think most people do so. I mean I think you can make adjustments. Right now, I am taking just a vitamin D supplement because I live in the north (yeah) and we just don't get enough sunlight.

Dr. Abrams: And your vitamin D needs be taken as a gel bead or the liquid. (Yeah) Many people take vitamin D preparations that are complex to calcium as a white powder. Vitamin D is fat soluble, so it's better to take it again as a gel bead or as a liquid as opposed to as a white powder.

Nancy: Yeah, that's what I have, a gel bead.

Dr. Abrams : Yeah, I am saying it for the benefit of other people in the audience.

Nancy : Yes, of course. Thank you for the tip about the mineral water. That's really interesting.

That's a good one if you can find it.

Dr. Abrams : Uhhh. It's probably available, you know.

Yeah.

Pat : Right, Nancy. Thanks.

Nancy : Thanks, Pat.

Pat: Beverly, what are you asking the Doctor?

Beverly : Well, it's interesting that you mentioned that you are not a fan of dairy.

I am a breast cancer survivor and my tumor was estrogen and progesterone positive, so I have done a lot of research into whether it's safe for breast cancer survivors to consume not only dairy but soy, so I am asking

you two different questions. The studies are a little conflicting about whether dairy and soy are okay for breast cancer survivors or not. That depends on what you read, depends on what day that you do the research and so I am wondering if you can kind of just share your opinion about dairy and soy not only just for breast cancer survivors but also just the general public and maybe why you are not a fan of dairy because I know why I am not, so I think the listeners might want to hear that.

Dr. Abrams : Okay, well, let's do dairy first. There is no other animal that drinks another species' milk, but no other animal drives a car and goes to college, so that's not a good argument, but no animal drinks milk after they have been weaned, and by the age of 3 or 4 we actually all lose the ability to digest the sugars and the protein in dairy. We make a big deal about fat, no fat, low fat, 2%. It's not the fat and if you want a dairy product, probably butter might be one of the better ones. We talk about lactose intolerance as if it's a disease or disorder when in fact it's the norm, and the ability to digest lactose is a genetic mutation on the second chromosome which is found mainly in Scandinavians who need it to digest Reindeer milk in times of freeze. Otherwise, most of the world's people are all lactose intolerant and we don't know it until we stop. So, then people say what about yoghurt because in yogurt and Kefir the proteins and the sugars have been altered by the fermentation, so again butter or yogurt or Kefir if somebody needs a dairy product, it's probably that. However, we know that breast cancer is exacerbated or perhaps promoted by saturated fats and dairy is a saturated fat. In addition, cows in order to be able to produce dairy continuously are given bovine growth hormones which, I am told, although I have been challenged on this, when we see that in our body it promotes insulin-like growth factors. Insulin-like growth factor promotes inflammation and also causes cancer cells to divide. In fact, a new way of treating cancer is looking at blocking the insulin-like growth factor 1 receptor and that's been looked at in women with estrogen receptor positive breast cancer.

So, I am not a fan of dairy for patients with cancer or without cancer. Soy gets a bad rep right now because of GMO and I don't really follow the GMO stories, so I am not going to go there. What we know from epidemiologic study is that Asians living in Asia, eating an Asian diet has a lower risk of breast and prostate cancer and it's felt that it's soy particularly, possibly during adolescence, which provides that risk or lowers that risk of those hormone-driven cancer. Because soy is a plant estrogen or phytoestrogen, there has been some fear that women particularly with estrogen receptor positive breast cancer should avoid soy products; however, Kaiser Permanente did a large study in Northern California where they asked women with breast cancer particularly about their consumption of soy and found that women with estrogen receptor positive breast cancer who ate the equivalent of Asian amounts of soy that is a potion a day of whole soy foods actually had decreased risk of recurrence of their breast cancer even if they were on tamoxifen, which previously we hear would compete with soy or selective estrogen receptor modulation. This study was confirmed by also a large study in Shanghai, so I am an author of a paper that suggests that oncologists do not have to have their patients with breast cancer fear soy at all; however, when I advise people about soy I suggest that they eat whole soy foods, like soybeans, soymilk, tofu, tempeh, and miso and not soy turkey, soy cheese, and soy hot dog because those are just heavily processed foods. So, I am pro soy and anti dairy.

Beverly : Okay. How do you feel about almond milk?

Dr. Abrams : Almond milk is fine. That is a great alternative to a glass of cow. Almond, hemp, cashew, soy, and rice, all very good as long as they don't have added sugar because my three no's are dairy, sugar, and red meat.

Beverly : Okay. That's great information. Thank you so much for answering my question.

Dr. Abrams : Sure.

Pat : Thanks, Beverly. Sweta! I see you got a great question.

Shweta : Oh! Hi, everyone. Yeah, thanks, Pat, and thanks for having me on the show today and I just heard Dr. Abrams saying that no-no for him is dairy, sugar, and red meat, so my question here relates to sugar in

cancer patients and being a nutritionist this is important to me because most of the time the cancer patients are on chemotherapy and they lose appetite, they lose taste, and they have to deal with symptoms of nausea, vomiting, and GI upset, so they are not able to eat so much, so being a nutritionist our job is to at least fulfill their minimum calorie requirement, so is it a good idea to feed or increase the calorie contents of a cancer patient's diet by adding sugar or fat food maybe, mainly my question is regarding sugar here?

Dr. Abrams : Yeah… No, no, no, no! No, no, no!

I mean I quote all the time the guidelines from The World Cancer Research Fund American Institute for Cancer Research, every 10 years they come up with their compendium of guidelines to reduce the risk of cancer, 10 guidelines and #10 says for cancer survivors follow the 9 guidelines above. #1 is to be as lean as possible without being underweight. #2 is to be physically active for 30 minutes each day. #3 as the first, if it says anything about food and it simply says avoid sugary drinks. So I was at the microphone at the meeting in 2007 when they unveiled that and I said there are sugary drinks and there are sugary drinks. You can drink a cola beverage or a fruit punch which is probably glucose and high-fructose corn syrup or you can squeeze three oranges in the morning and the response from the podium was energetically they are all the same. So, if you eat an orange and do you know the fiber slows down the absorption of the glucose into the blood stream. If you squeeze the sugar away from the fiber, it's like drinking a cola beverage and why is that that? When the body sees that surge of sugar it spurts out insulin and insulin-like growth factor, both of which promote inflammation and cause cancer cells to divide.

So, there are many other things that patients can eat besides sugar. I mean, when my colleague across the street in the cancer center started to ask me why do you tell all of our patients that cancer loves sugar, I say what is the PET scan? PET-CT scans are how we stage cancer now. We inject people with radiolabeled glucose and where does it go? To the tumor because cancer needs sugar for energy, it doesn't use oxygen. So, I have a patient that I just met three weeks ago who is now getting chemotherapy across the street and she said to me, "Do you know what they serve in the infusion center? It's all garbage." I said, "Yes, I have been trying to correct this for the last seven years, but nobody listens to me." Yeah and It saddens me when I see my patients at San Francisco General Hospital with cancer, on their hospital trays they have a can of a toxic supplement because, you know, this is what we give them. It's four different types of sugars.

Shweta : Okay. Okay. Yeah, that's interesting to know that PET CT scan use glucose infusion, so is there any other way to scan it?

Dr. Abrams : I am not worried about that. I am just saying we are taking advantage of cancer's affinity for sugar by using it as a method to stage and find cancer. That doesn't worry me as much as about patients eating refined carbohydrate.

Shweta : Uhh.. hmm.. Okay. So, you mentioned that oranges would be better as compared to having just plain glucose drinks. So, what about the patients who are on a low-residue or low-fiber diet?

Dr. Abrams : That's always a problem is for me because, you know, the diet that I recommend to my cancer patients is organic, plant based, antioxidant-rich, anti-inflammatory whole food. So, when it comes to those patients with issues in their GI tract where they have to be on low-residue diet, then I have to engage a nutritionist because I am not so good at that.

Shweta : Okay. That answers my question. I have couple more questions. Can I ask it right now, Pat, or later?

Pat : No, go ahead. Absolutely.

Shweta : Okay. So, on that note that you mentioned about antioxidants, I had a question about that, that there is a concern that some of the antioxidant supplements may interfere with cancer killing treatment. Is that true and can you just explain a little bit more in detail about it?

Dr. Abrams : Yeah. So, so, oxygen as you know has two molecules linked together, that's how we breathe and that's how we live, but whenever the oxygen molecules separate, they become free radicals, those are called reactive oxygen species which knock into our DNA doing damage, leading to aging or cancer. Antioxidants take those free radicals out of circulation so they don't do damage to DNA. Now, it turns out that radiation therapy works by creating free radicals of oxygen to do damage to the cancer cell's DNA. So, some chemotherapy drugs also work as well by generating free radicals of oxygen to do damage to the cancer cell's DNA. So, there is a theoretical concern that taking antioxidant supplements while you are getting radiation or some of those chemotherapeutic agents may actually diminish the effectiveness of the radiation and chemotherapy and that would be a shame because those can be sort of toxic and you don't want to go through it and not get the benefit.

Now, had there been in any research that's proven that the main study that's quoted is actually a study in patients with head and neck cancer who were receiving vitamin E during radiation and that study shows that although vitamin E supplementation during radiation led to decreased toxicity of the radiation, it also apparently led to increased recurrences and shorter survival in the patients who were randomly assigned to get active vitamin E compared to placebo. That was one study, but it certainly has influenced the radiation oncology world to tell their patients no antioxidant supplements while they are getting radiation therapy and again most conservative oncologists have extrapolated further and say no antioxidant supplements while you are getting any cancer treatment. Whether or not that's true is unclear. Keith Block who edits integrative cancer therapies – one of the main journals in integrative oncology did a meta analysis of about 18 studies of antioxidants and found no evidence that they shortened survival.

Now some of the radiation oncologists even go so far to tell patients not to eat blueberry or only eat white food while they are getting radiation. I think that a bit extreme. I don't think that antioxidant-rich foods are going to interfere when it comes down to that beam of radiation versus the blueberry, who do you think wins? So, I think it's fine to eat an antioxidant-rich diet during chemotherapy and radiation, but I do err on the side of caution and recommend people not take antioxidant supplement to a great degree when they are receiving chemo, especially if the goal of chemotherapy is cure or if it's given in an adjuvant setting. If the goal of chemotherapy is just palliation and we are not really going to cure the patient, then maybe if they can decrease side effects then maybe that time when some antioxidants might be warranted.

Are we set?

Yeah. I am done.

Shweta : Okay. Great.

Okay. That answers my question, Dr. Abrams. Thanks a lot for answering my questions.

Dr. Abrams : Yep. My pleasure.

Pat : All right. We have a long list of questions from some listeners and as I read through these I am struck by how similar they are. We have a lot of prostate cancer listeners, #1, so rather than go, you know, case study by case study and there is some redundancy, Doctor, any specific thoughts about what a prostate cancer survivor should be eating?

Should be eating?

Eating? Supplementing?

Dr. Abrams : Yes. So, prostate cancer survivors first of all benefit from not being obese and not having a body mass index greater than 25, so if they do, then I would recommend that they go on a reduction diet. But, again, the diet that I recommend for everybody is organic, plant based, antioxidant rich, anti-inflammatory whole food. For prostate cancer, of course, lycopene or the active ingredient in tomatoes is

recommended because it has been shown to be beneficial. Lycopene needs to be oil extracted, so tomato paste or tomato sauce is the best source as opposed to eating raw tomatoes. Water melon and grapefruit also have lycopene. I also favor soy for prostate cancer patients and deep cold water fish that are rich in omega-3 fatty acids. There is just a bit of controversy about omega-3 fatty acids may increase the risk of prostate cancer. I think that's a poorly done study. I think salmon, black cod, albacore tuna, herring, mackerel, and sardines are all good fish, rich in omega-3's and should be consumed by prostate cancer patients who since they are not going to eat that everyday should probably take an omega-3 fatty acid supplement.

Pomegranate is also something that has been shown to slow PSA rises. And there was a recommendation that 8 ounces of pomegranate juice should be consumed. Now, here is again another one of those situations where I am concerned about the amount of sugar in pomegranate juice without the fiber that's associated with eating a pomegranate. So, that's one time where I prefer that my patients actually might take one of those pomegranate capsules as opposed to drinking that much sugar.

Green tea, I am just on my fifth cup of the day, is something I recommend for most of my cancer patients, but it particularly has been shown to be of benefit in men with prostate cancer. So, green tea is another one of those. As far as supplements again, I measure all of my patient's 25-hydroxy vitamin D levels to make sure that their vitamin D is normal. Low vitamin D has been associated with increased risk of a number of cancers, including breast, prostate, colon, and pancreatic and in some of those cancers, it's been demonstrated that patients with low vitamin D levels have outcomes that are not as good as patients whose vitamin D levels have been normalized. So, I do recommend vitamin D supplementation and omega-3 as I said.

Calcium is interesting because calcium and prostate cancer is a little controversial. There is some suggestion that calcium may increase the risk of prostate cancer. Some people think that dairy products increasing the risk of prostate cancer and not calcium per se. However, in Singapore where they don't consume a lot of dairy because they are lactose intolerant, it was demonstrated that calcium content of vegetable intake was associated with a greater risk of prostate cancer. So, in general, for most of my patients over the age of 50, I do recommend a calcium-magnesium supplement; however, in some of the men with prostate cancer I might leave that out.

I am also a big fan, as I mentioned, of mushroom, so generally I recommend some sort of a mushroom blend to most of my patients. There is some evidence that turmeric again may be useful in prostate cancer patients and one particular proprietary supplement called Zyflamend – which is a 10 botanical cox-2 inhibitor, has been demonstrated to reverse early prostate intraepithelial neoplasia, so that's something I also find that I recommend to men with prostate cancer. Also, physical activity is very important. You know we tend to think in our western pharmaceutically dominated paradigm that if you take something and swallow with a glass of water, that's easier than making a lifestyle change and I know it's very difficult to implement 30 to 60 minutes of physical activity daily into our busy schedule, but that is something that has a very positive effect in breast, prostate, colon, and a number of other malignancies.

Pat : Thank you, Doctor. I have a question here about mistletoe supplement diet. I have never even heard of that. Can you tell us anything about that?

Dr. Abrams : Oh, yes! Yes, I do. Very popular in Europe – anthroposophic medicine. Actually if I can just plug my book for a second, Andrew Weil and I edited the book, Integrative Oncology by Oxford University Press, and we have a whole chapter on anthroposophic medicine and mistletoe and I have a disclaimer in the foreword that just because we include things in the book doesn't mean that we support them. And mistletoe because it is probably the most widely used complementary or alternative therapy for cancer in German-speaking countries is something we felt needed to include. Actually, I am also one of the editors of the National Cancer Institute Physician Data Query Complementary and Alternative Medicine website, that's NCI PDQ CAM and if you google NCI PDQ CAM mistletoe, you'll see our document on mistletoe which has been undergoing some revisions as we look at it more carefully.

The studies that were done in Germany were conducted in a very unusual fashion where they looked at 11,000 patients with cancer and sort of collected those 5 or 10 years down the line and tried to see if they were taking mistletoe and if they were, then they matched them to other patients in the cohort, who were not yet dead and compared their outcome, of the mistletoe people to the non-mistletoe people and got very spectacular outcomes that were, in my opinion, totally unbelievable. So, that's sort of what they call a retro-elective study, doesn't replay a prospective randomized placebo-controlled trial and in studies of mistletoe that have been conducted in the more rigorous western fashion, prospective randomized placebo control, there may be some suggestion that mistletoe decreases some symptoms of cancer or it's treatment and maybe improves quality of life, but I haven't been impressed that it does anything for overall survival, which in my opinion is the most important outcome. So, I am not a huge believer in mistletoe. It needs to also be injected subcutaneously and it needs to be imported sort of, in our country that's again, you know, importing something that's not available is this country, so I wouldn't waste my energy, time, and money on it personally.

Pat : Okay. Well, that helps. Panelists or Priya, do we have any, has anyone called in with question?

Priya : In case if you have a question for our panel, you may please press 1 on your keypad and we can bring you live on air to ask your question. Yeah, we have a caller online. Now, Pat, I will just bring them online. Person calling in from (858) 204-6956, please ask your question.

Caller : This is Lizzy and I am so sorry, I joined a few minutes late and maybe you covered that in the first, I don't know, 5 or 10 minutes that I missed, but why such a hesitation among most oncologists about talking about nutrition and how nutrition can help, either beat cancer, treat cancer or help people stay well. I specifically, when I was diagnosed with myeloma went in and spoke with my oncology nutritional department and I said so, you know, I have been reading lots of stuff and I think I should be eating Garlic and not eating sugar and I listed a whole list. Why don't they say, "Oh, you know that really doesn't matter or you know if you want to have the chocolate cake, just get lots of healthy food and I thought that, you know, sugar stimulates cancer, that what they brought up at the PET scan. And they handed an article saying that really sugar didn't have any effect on cancer and I thought, you know, why the hesitation, actually I am getting a little upset about now that I am speaking about it, that why do you think?

Dr. Abrams : Well, I think, you know, it's a very good question. First of all, oncologists are very demanding of the evidence, I mean of all the evidence-based specialties, because we use such toxic drugs we want evidence from randomized placebo-controlled clinical trials. Nutritional evidence is really quite difficult to come by and we have to generally utilize epidemiologic studies because we can't randomize 25,000 people over here to drink green tea and eat tofu three times a day versus 25,000 people over there to drink green tea placebo and eat tofu placebo three times a day, so the studies can't be done and, you know, look at where oncology becomes targeted therapy is nanotechnology, genomic, it's very high tech. Nutrition is like mother of an apple pie, it's very basic and, you know, we oncologists feel we have moved beyond that. Plus, we don't learn about nutrition in medical school. Yesterday, I taught third year medical students about nutrition and health and wellness. I mean if we are going to try to have affordable medical care in our country, we need to be a health care system, not a disease management system. And so you look at the average oncologists, they have to be so specialized today. They can't be a GI oncologist. They have to be pancreatic or colon or liver, you know, the breast group – Everybody is in their own specialty cylo and that's what they know. So, you can't expect any of those people to really be up to date on nutrition, so it's much easier to do the default and say it doesn't really matter what you eat, eat whatever you want, rather than say I don't know.

I guess it's too…

Pat : Did that help, Lizzy?

Yes. Can you, can you hear me?

Yeah.

Uh ha.

Okay. Looks like I was muted again. It's just up to us to do research and, you know my whole thing was I didn't know who to ask, so I just thought, well, anyway, certainly can't hurt – what they were saying anyway, didn't think it mattered, you know, what I put into my body. The other thing I spoke about or asked about, my treating physician was what about green tea and they said no green tea and that is the first I have heard of any of that?

Lizzy, I believe that's a Velcade interaction.

Lizzy : Yeah, but that study is published in Blood. There is no humanly possible way that you could achieve that level of EGCG by drinking green tea, so that is another one of those bogus fears. There is just no way that you could achieve that blood level in a human being drinking green tea.

In your opinion, green tea is, every study says it is so anti cancer, do you believe that it is? I am taking Velcade, I am on it, you know, another one year maintenance plan. Would you say that

Dr. Abrams : No, I am not going to… I don't do individual patient consultation from audiences personally, so I don't know enough about your story, but you know you can discuss what I just told you with your oncologist and see how they feel about it. I think that's the safer thing to do, not ask me. I don't know you, I don't know you at all.

Lizzy : Okay. Thank you.

Dr. Abrams : Okay, but you mentioned that, you know, please look and see if that level of green tea, the micromoles that were given in test tube, you know, or to mice is an achievable blood level in humans drinking green tea and it's not.

Lizzy : Okay.

Dr. Abrams : But, that gets published in blood, you know, the most prestigious journal, because it is a negative study.

Pat : Sounds like we should all be reading Integrative Oncology, Doctor.

Dr. Abrams : Oh, there are a lot of good books out there, but you know that's the one I wrote.

Pat : That would be a good place to start. Your point about green tea, can't you apply that to most, any supplement, I mean it's a jump, it's a stretch, right, from what happens in your gut to what actually happens in the bloodstream and then affects cancer cells.

Dr. Abrams : No, I am not sure I understand what you mean.

Pat : Well, I mean, you know, I am not going to be the one to argue with you. I think I pretty much agree with everything you are saying, but, you know, for example, on the sugars, nutritionists would argue that just about any carbohydrate or sugar and your body can't tell the difference.

Dr. Abrams : No, but it's the rapidity with which it becomes sugar in your blood stream which stimulates insulin-like growth factor. We know that diabetics have more cancer and diabetics with cancer who are treated with insulin don't do as well and diabetics with cancer who are not treated with insulin. And, interestingly, we now know that metformin actually seems to decrease the risk of cancer and diabetics with cancer on metformin, on oral hypoglycemic agent, which actually is derived from the French Lilac actually

have better outcomes than diabetics with cancer not on Metformin. So, it's all about, you know, insulin and insulin-like growth factor and as I mentioned earlier blockade of insulin-like growth factor is becoming a new strategy for treating cancer.

So it's the rate at which, again everything ultimately becomes sugar and I tell people when I am advising them about no sugar, that when you buy a food that is packaged in the nutrition fact box in our country, it's okay to have sugars in the nutrition fact box because that's what fuels our brain. Where I don't want to see any sugar or any nicknames for sugar is in the ingredients list. Here is a bar I am holding in my hand that a patient gave me, she said, "I only eat healthy food." The first ingredient is brown rice syrup followed by soy protein isolate, whatever that is, followed by evaporated cane juice crystals, followed by crystalline fructose. So, that's three out of the first four ingredients, are nicknames for sugar. That's where I don't want sugar because those all become, you know, a stimulation to our pancreas to secrete insulin and insulin-like growth factor which promotes inflammation and causes cancer cells to divide.

Pat : I appreciate the specific way that you are addressing these issues. It's very helpful and again it's something that you don't normally find. Panelists, does anyone have any follow-ups with the doctor?

Beverly : Dr. Abrams, this is Beverly McKee again. I would like to hear your thoughts on the mind-body connection. I am a medical therapist and I am a strong believer in the mind-body connection. I believe you did some work with that.

Dr. Abrams : Sure.

Beverly : How do you think that mind-body works, the mind body treatment with your patients?

Dr. Abrams : Yeah, well, so you know, I tell patients that stress is not a good thing for cancer. I start my interview asking my patients, "Tell me your story," and they often say, "What story or where do I start or which one," or they hand me sheets of papers and say, "Here it is. I say, "No, no, I want to hear your story" and many of my patients develop a story suggesting that stress caused their cancer. I don't think stress in itself causes cancer, but we know that stress is not good for cancer. Stress is adrenaline or epinephrine which kills our lymphocytes, the building block cells of our immune system and stress is cortisol, which is a steroid hormone, which is an immunosuppressant. So, decreasing stress is a good thing and in fact they have done studies in mice who have breast cancer, metastatic, and one group of mice were confined to a small space for three hours a day whereas the other group ran free and the confined group at the end of the study, the stress group, their primary breast cancers were the same size as the controlled group, but they had increased size and number of metastatic lesions. So, mice are not people. They are found in women with ovarian cancer who lack support, social support, and who have a higher level of distress, that their tumors actually have more VEGF or vascular epithelial growth factor which allows them to become more aggressive. Similar findings with increased VEGF and depression have been found in patients with head and neck cancer.

So, these are some of the first evidences that stress or emotional state may influence the aggressiveness of a tumor. And so, for me, after nutrition, physical activity, supplements, and Chinese medicine, then I want stress reduction to be a key part of the regimen that we develop in integrative oncology and I myself don't meditate, I do yoga and I try and recommend yoga. I recommend exercise, physical activity, I think it's good for stress. I give my patients a catalog of guided imagery CD-ROM because I think guided imagery is a good thing. I have Biofeedback here that I can refer patients to and we have an eight-week mindfulness-based stress reduction program as well that some patients find quite useful. On a physical medicine aspect, I think massage is a very good way to reduce stress as well. So, I have those in my armamentarium for working with patients to try to decrease stress because I think that's quite critical. We know how much the mind affects the body and vice versa, I mean it's all the same container. If you are sitting in a traffic jam and you need to get someplace, you can get yourself stressed to the point where your neck is stiff, your blood pressure is up, you are feeling your heart beating, you are sweating, or you could just try to, you know, let go and realize that the meeting will happen when you get there.

Beverly : I completely agree. Thank you for sharing that with me.

Dr. Abrams : My pleasure.

Pat : Priya, do we have another caller?

Priya : Pat, we have a few callers. Yeah, we have five more minutes and we have a few callers too. I will try to bring them on air quickly. The person calling in from 760-439, please ask your question.

Caller : Yeah. I have recurrent prostate cancer and the PSA came back after prostatectomy and when it got up to 0.2, I got really concerned about it and I emailed my dad's old oncologist, Steven Strohm, and he suggested the DIM supplement made by BioResponse, and I started taking that stuff and my PSA stopped there at 0.2, went down little bit and then back up to 0.2 and it's been like 11 months and that's been the most effective supplement I have used. Before that, it was doubling every five months.

Dr. Abrams : Doubling to anything less than 2 I am not that concerned about personally, but DIM is one of those components in cruciferous vegetables, diindolylmethane or whatever, changes your estrogen from the type that fuels estrogen receptor positive cancers to the type that doesn't. I haven't heard of a man taking DIM and one of my concerns really is, taking these isolated chemicals from foods and concentrating them to levels that we don't understand what they are going to do. For example, Paracelsus was an alchemist who spanned alchemy and medicine in renaissance who said there is poison in everything. The difference between a remedy and a poison is the dose. Resveratrol is a very popular supplement as well. Resveratrol is what's found in grapes and red wine and it's felt to be an appetite suppressant and perhaps grab the life, etc., however, 1 g of resveratrol is equal to the amount of resveratrol in 667 bottles of red wine. I prefer for my patients to drink green tea because green tea extracts taken on an empty stomach can damage the liver. I don't know what DIM does or indole-3-carbinol which is another cruciferous vegetable ingredient, when taken at that high concentration for long periods of time. So, I as an oncologist tend to err on the side of caution and I don't think that 0.2 is a very elevated PSA to begin with, though I wouldn't expect it to be jumping out of control. So, you know…

Caller : Well, it is 0.8 right now, I haven't been taking it

Dr. Abrams : I don't know how you know that. I don't know

Caller : Because it was doubling every four months.

Caller : Right.

Yeah, and it's been 10 months.

Dr. Abrams : But, the body is not quite as predictable. It's not.

Caller : (Laughter) Ah, well, it's been predictable for 2-1/2 years, so (laughter) yeah… So it's bioresponse.com is the people who make it. And it's made for better absorption, so you actually only have to take a small amount, it's only 25% DIM, so each 150 mg only has 37 mg of DIM and one a day actually was enough to slow it down at first. I am up to 4 now, but that one a day did work for me for several months.

Ah ha.

Pat : I am glad something is helping. I appreciate.

Priya : Thank you, Alex. We have just one more caller. I am trying to bring him on before we wrap up today's show. Yeah. Caller calling in from 415-531, please ask your question.

Caller : Thank you. I just wanted some clarification about green tea and Velcade because it was left, I believe, that Lizzy had a particular individual question, but in fact many of us have been told that when on Velcade, no green tea. So, are you saying that green tea with Velcade is okay?

Dr. Abrams : You know, I told you what I know, that the study that your hematologist-oncologist is reporting was in blood and it was a study that was not done in humans. It's in the test tube and it's in animals and the amount of green tea that was used, the concentration is not a concentration that could be achieved by drinking green tea.

Okay. Thank you.

Dr. Abrams : Yeah. That's all I can say. All right?

Priya : Yeah. Doctor, just one last question. Could you talk a little bit about cannabis oil as a cure? That's the last question that came in from one of our listeners.

Dr. Abrams : No. And that's an hour long program. I am sorry. (laughter) Yeah.

(Laughter) and the person wants to know if it's going to be beneficial?

Dr. Abrams : Yeah, cannabis oil is not a cure for cancer. You know, some patients benefit from taking it with symptom management and perhaps it has some anti-cancer activity, it needs to be studied. There's a lot of anecdotes out there, the plural of anecdote is not evidence.

<> : Thank you. Thank you so much, (okay) Dr. Abrams. Pat, Nancy, Beverly, and Shwetha, thanks a lot. That was a great discussion. I think we shared a lot of information. I have always benefitted too. We look forward to having all of you join us for our next CurePanel Talk Show which is on January 23rd at 6 p.m. eastern time and we are discussing Yoga Nidra for PTSD and mental health with Dr. Richard Miller, Founder Director of iRest. Please visit curepanel.carefeed.nic for registering for our upcoming show. Mail me Priya@trialx.com for registering for the meeting. The broadcast link for today's show will be sent via email to all participants. Thank you so much.