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>>Welcome everyone. Thank you for joining the American Brain Tumor Association webinar series. We will discuss the impact of complementary therapies on quality of life for patients. Our lines are muted today. If you have a question, please type and submit it using your question marks -- box. Dr. Hardy will answer as many questions as possible at the end of the presentation. Following the session, you will receive and him from -- invitation to complete a survey. Take a few minutes to share your comments about today's webinar. Feedback is important to us as we are starting to plan our 2014 webinar series. We are recording today's webinar that will post to the website shortly. You will receive a link and a follow-up e-mail message once the webinar is available. Let's pause for a moment so that we can begin our webinar recording.

>> The American Brain Tumor Association is pleased to welcome me back to the webinar series. Our webinar will discuss the impact of complementary therapies on quality of life for brain tumor patients. My name is Jillann Demes, senior program manager here at the American Brain Tumor Association. I'm delighted to introduce our speaker today Dr. Mary Hardy. She is a board certified internist with including, the mentoring medicine in an integrated medicine practice for the last 30 years. She is a member of the board of the Society of integrative medicine. And this is what she will discuss the status way to use effect of dietary supplements and other Koppelman Terry therapies during the care of brain tumors. Thank you so much for joining us Dr. Hardy. You may now begin the presentation.

>> Thank you very much for having me. I am grateful for this opportunity to speak with all of you today. You see my slides here. I will go through them. I will at the end answer questions. Let's begin with the position that -- let's begin with the idea that the patient sitting in the examining room and incomes the doctor and the patient says, the truth is, Dr., I've lost faith in Western medicine. This is a misconception. I think many physicians feel patients want to use complementary and alternative therapies have turned away from Western medicine and in fact, if -- is anything but the case. For many patients they want to get this information in the context of their medical care and ideally be able to discuss that with their treating medical team, physicians, nurses, etc. Before we start, I would like to take a moment to Orient you on this talk. This talk will be relevant for or brain tumor Helen -- all brain tumor patients. Many symptoms occur because pressure in the cranium and so they have similar causes and will have similar ameliorating strategies. When I speak with you and with physicians and when I take care of patients myself, I think scientific evidence is very important. It shows us what could work, it shows us how to use the strategy that we want to use and it is especially important for safety.

>> It also helps you when you are trying to talk to your health care team about what you would like to use to be able to say there is some evidence. The way I will talk to today is going to be, not completely, but largely by showing you medical studies. Just like I would teach my medical students or share with other physicians. This will limit or make limitations that made be difficult for some of you -- may be difficult for some of you because some of the studies that have been done have been done on malignant brain tumor patients. Those of you with nonmalignant meningioma, cranial hunting angle tumors or other types of tumors that I do not appear to be addressing directly, please know that I have those in mind and that I am just showing you what the literature has and we will extrapolate from that two other concerns.

>> A lot of people in treatment for cancer are using and in general health care, serious medical illnesses, are using complementary and alternative therapies. This use can exceed 80%. The variety of therapies that is used is very wide. And significant amounts of time and money can be spent procuring and utilizing these therapies. Think -- think that predict higher use are being younger, female, having a higher education, and in conditions which have a generally more difficult or poor prognosis then there is often higher utilization.

>> For primary brain tumor patients, some of these caveats apply and some do not. Overall, a little over a third of the patients were using some kind of complementary alternative therapy, which I will refer to as CAM in general on this website. Two thirds worked, but the third that was using, most of those patients were using more than one kind of treatment. Most people did not find out about the therapies from their medical team and the vast majority did not disclose to the position that they were using anything other than the conventional treatment that had been prescribed to them. Most people here from their families, friends, or from the Internet and so we will spend some time looking at how the Internet is a useful thing, but where there may be some problems with what you find on the Internet. Cost is usually modest. It can also escalate quickly to significant sums of money. However, patients who did use these therapies had a higher performance status and were able to do daily activities, sleeping, walking around, etc., but that did not turn into formal measurement of qualities of life that is what QOL means. People who did this found benefits but not all the benefits they wanted. This will show you -- again in patients with glioma, this is a report of what these groups of patients were using. You can see the area is very broad. You can see, for example, things that are commonplace that we hear a lot about, acupuncture; we will talk about special diets and Boswellia acids, vitamins, and herbs. We will get to a number of the areas that are commonly reported to be used.

>> When asked, explain to us how, why, and what you were using for these things. I think I have heard these same kinds of statements from a wide range of patients. One of the most important ones is, I want to do something for the treatment by myself. As you get a serious medical diagnosis, you get launched onto a roller coaster ride where you are not the driver anymore. That can be just overwhelming. Having therapies that you can empower and you can do for yourself that you are clear will make a difference, can go a long way to giving you back some sense of control and some actual control and that Israel helpful in decreasing anxiety. In addition, patients who are at the take of chemotherapy target these materials to decrease chemotherapy. Stress management is a huge issue and time. Some of these are more negative like being afraid of conventional medicines. By and large, the majority of people really wanted to

try to help themselves, relieve stress, take care of some side effects, and support the conventional therapy. That is the manner in which we will talk about these.

>> Just to stress the issue about reporting what you are doing to your physicians. Like in the previous study, 70% of the people were not disclosing what they were using. I think that is a problem because nondisclosure, if you do not tell your team what you are doing, there are real consequences that can happen. They may not know about an herb that you are using, let's say, and there could be a potential interaction with medication they are giving you or some things may predispose you to bleeding and that could be a very serious complication for virtually any brain tumor patient. The consequences for nondisclosure can be marked, but it is not a stress-free event for many patients to disclose used to their providers. I think patients are very afraid of what their physicians and nurses will say. Many people expect and often unfortunately receive a very negative response. Do not do that. Why would you want to do that? And that can be devastating for a patient who is so dependent on this physician to treat them in this critical time. Some patients will go a long way to go to avoid excess negative interaction. This one is on us as the physicians, many patients do not think we really have the expertise to adequately comment on products, how to use them, and how to use them safely. I strongly encourage you to talk to your doctor, nurse, the rest of your medical team about your complementary alternative medicine use and to facilitate that discussion so that it's as specific and useful as possible. I will recommend that you bring whatever material you are using to help you make your decision. For example, if you are on the Internet and you are reading sites or you have a book, bring that material with you so that you can show your medical team exactly how you are making those decisions. And if it is your answers he who is your medical advisor, your labor medical advisor I would like to say, if aunt Susie can come with you to the appointment, it is useful because then the person who is advising at home and the medical person who is advising you in the clinic, everyone can be together so that you can get a really coordinated plan together. If you are taking supplements, bring the actual bottle. During the time of treatment, don't branch out. Don't switch from brand to brand to brand unless you are told to pick a brand by your medical practitioner because you want as much consistency so that you have predictability about the effects of the material you are using.

>> Let's talk about how you find reliable information. We said friends and family are the most common source. The Internet is increasing in importance. It is why we are all taking today. These are sources that can be responsive -- repositories for great information. Remember, friends and family may not know editing about your medical condition so they may not be able to comment exactly right, have exactly the right advice for you. The Internet, this may come as a shock to many people, but not everybody is well-intentioned. Buyer beware. You want to come to this experience with a little bit of skepticism so that you are not surprised by finding negative or having adverse effects or finding information that will make you a more risk or have an infant -- ineffective supplement. Often, I will find that if I send my patients to a health food store to a pickup a particular supplement, they will be happy to weigh in. I don't mean to be derogatory to any group, but that person does not have a medical background and whatever advice you get there, funnel it back through your medical system for a -- or a pharmacist, nurse, physician.

>> Even your CAM survivor. Let's say you're getting acupuncture or a massage or anything that you are doing, some complementary alternative medical providers have become very savvy and Floyd at being able to work in the conventional system. For example, I know acupuncturists who are very used to working with cancer patients so they are very aware of the medicines that are commonly used, where they should stay away, how they should modify their therapy to give a good support without increasing risk. That person can be a very useful provider to help you think through what you are going to use. I would say, if you can connect the savvy CAM provided with the healthcare provider, doctor, etc., that is an ideal team for you. You should pick and choose and identify whoever you need to get the right information to maximize your treatment.

>> This reinforces the same message that friends, family, are very important information sources. In this particular study, I was happy to see that physicians were starting to be identified as a significant source of information, but again, here is the complementary practitioner. This is an underestimate for the Internet, because that is a huge source. I count those largely like family and friends.

>> This is looking at when a brain cancer patient goes to the Internet, what did they find and what contact they make out there. People tend to hop on the Internet if the tumor is a higher grade or if the symptoms were worse or the diagnosis was more guarded, the prognosis was more grout -- was more guarded. Some people will spend four hours a week and some people spend more time than that. It generally seems that people who spend a lot of time in the beginning, start to taper off over time. This is us on doctors, be many -- many people hop on the Internet because they did not get enough information from their physicians. People who go on the Internet to look up conventional medical information or to look up alternative medicine, but also they want to get emotional support. It was really, I think an eye-opener for me to realize that about 50% of the time. Were looking for self-help activities or engaging in a group support experience. I think you will get a lot of the Internet and has a lot of information, but if you're not getting information that you feel you are getting from your medical team, by all means go back and get that information from that source as well because you should be. I just put this slide up because I think that this is one idea of how you can think about credibility.

>> This is the site that I accessed a few years ago. The first -- this looks like a real significant medical type site. It looks very serious. Here is the new brain cancer treatment, free of side effects. And that is not uncommon. You will see these kinds of sites and it looks official, but this site turned out to be not independent information. As I remember, it turned out to be -- turned out to get you to buying a supplement. These kinds can be very hard to find sometimes. Be as smart out. Keep your other hat on so that you feel like you are still feel -- still hearing from others, but don't just jump at everything that looks too good to be true.

>> If you are finding any new therapy, this is the process. You will balance the risk of that new therapy and you can think about the risk of using it or the risk of not using it, but let's talk about the risk of using it now versus the benefit of that new therapy and then you balance that all off against cost. I think you will find that if you do this correctly, the risk is going to be very low and manageable and the benefits are clear and then the cost is reasonable. If the cost is not

reasonable, I really would rethink the whole thing. That's a red flag for me. I will shoot you my red flags for CAM therapies that are too good to be true.

>> This means where do I start to get suspicious and worried and stressed and thinking about how something could be harmful or not useful, where do my suspicions,? If you can have a treatment that is good enough to cure cancer and is that strong and has no side effects, if it's too good to be true, it probably is. Overpromising. There was a complementary provider who first wrote the cure for AIDS book here and then she wrote the cure for cancer book. And her final book was the cure for all disease. That's a classic case of overpromising. If you cannot see what the ingredients are or the formula is, something ingredient, if I try to talk to a practitioner and they will not disclose in a general way what is in their formula, that is a bad sign. If something is expensive, if the person will not talk to me, if they can never tell me -- if they say it is clinically proven, but they only ever tell me us sorry, anecdotal evidence. You heard about someone who did well. That is very compelling, that when you only think about this kind of evidence, you don't remember the other patients who did not do well. I think you need to hear about both kinds of patients. It doesn't mean that you would not try something, because even if only 15 or 20% of patients did really well, if it's not harmful, that could still be a reasonable choice to make. I find that what people do is tell you all of the good stories and are overpromising. If you see these red flags, then you should be very suspicious and cautious and proceed with your guard up.

>> As I said earlier, if used prepared properly and used well, you should be very safe. How do you find a good provider? You may take a recommendation from someone who is knowledgeable. Ideally, your medical team, Dr., nurse, PA, etc. has worked with someone that they work well together with. That is a great way to find a practitioner because you know the communication will be good between the teams. Even if it is a provider you find yourself, they should be willing to talk to the medical team. People who can be licensed should be licensed and the license should be without any blemishes. They should work well with you and answer your questions. Ideally, the language you both speak. A lot of my patients would go to Asian practitioners of Chinese medicine and the practitioner spoke, not much English or not good English or there was a translator that was not really up to the task of translating. You can still get good treatment without being able to talk well to the provider, but I think that really will put you at a disadvantage.

>> Here we will talk about what kinds of therapies are available. You can see it's everything from diet, medication, herbs, supplements, exercise, etc. and how do you choose something good. This is all part of a personal wellness plan. But this should be individualized for each person and should be done in conjunction with the medical team. These are going to be things for you to think about or talk to your treating practitioners about. Here is what I think a goal -- a good goal is for integrative CAM therapy at an oncology. You should aim to improve your well-being. If you are eating well, sleeping well, moving around well, your mood is good, you will just be well. You will generally be a lot that are. You want to increase energy and decrease pain. You want to take care of side effects of conventional treatment. These three I think are within your purview to do you -- to do. What we want to think about increasing the effectiveness of conventional care, we always want to decrease emotional pain and these therapies work in two ways. They directly affect these kinds of emotional event and then they involve you in your own

care site -- so you don't feel so out of control so it decreases anxiety. There will be a lot of lifestyle issues to use following treatment and so these things we think should be considered helpful for helping you to be well and stay well after treatment is complete. You want to act as safe and effective chemotherapy agents and always, always, always, even if treatment is not directed for complete healing or cure, healing, soothing, and doing as well or even better than expected is always possible.

>> The components of a wellness plan. The first thing we want to look at our diet, exercise, and stress management. Those are I think three basics that come in virtually any treatment plan. Then we look towards supplements, complementary therapies, and maybe make recommendations for changing medicines back to the comp dental medicine team and also, I think, the issue of spirituality meeting, -- meaning, whether through conventional or not so conventional is always helpful. I looked evidence to inform my decisions, but it's not always available. So I do the best I can and do not go back and look at subculture.

>> Make yourself cancer unfriendly. You want to be able to decrease inflammation as a final common pathway. For the progression of a lot of chronic diseases including cancer and abnormal cell growth. To do that, you want to maintain your weight. You don't want to go too low and you don't want to go too high. You want to eat food that decreases inflammation, foods like plant based protein, fiber, not simple sugars. If you have something like diabetes that are most inflammation, you want to get diabetes under good control. It can be challenging if you take a lot of steroids. Having that other medical process controlled will make using anything else better. Then you can choose this -- supplements that decrease inflammation. We will talk about that more.

>> Only saturated fats. These are animal fats and that's that are solid at room temperature. This is also decreased animal protein, especially beef or red meats or processed meats like salami, below me, things that have been smoked. When you say eat a low glycemic index food it means foods that do not have a lot of simple sugars. Simple sugars are high glycemic, which means they don't a lot of sugar. Glycemic the ing sugar. They don't a lot of sugar into your bloodstream and is a top sugar into your bloodstream your insulin goes up and that increase in insulin causes increase in inflammation. Cold water fish is salmon and things like that, very important. We also want you to eat more fruits and vegetables. Supplements things like fish oil and certain herbs are also very useful for helping you control inflammation. In the future the doctor will show a diet to the patient. Let your food be medicine and lecture food be medicine. A lot of fruits and vegetables, herbs and spices, you can see the plate is full of fruits and vegetables here.

>> For brain tumors in particular, there's a lot of nutritional challenges. Protein breakdown is really marked and it can follow and cat tablet some means breakdown. They can follow collective brain surgery. When you have that stressful time for your body of surgery, your body starts to pull from other resources to support the functioning of the body and to repair the injury made by surgery. You will then break down muscle. If you break down muscle to help repair your surgery, you will feel weaker and less well. You will use up a lot of protein and albumin and other you -- other resources. You may have nausea related to your primary tumor or to your symptoms of surgery or swelling. Medications can really interfere with appetite and taste

changes can accompany either a primary of that or sometimes the treatment of that event. As you are thinking about your nutrition, you will want to have and make sure that you have more protein than you know me -- normally eat and that it's good, quality protein and that it digests well. Break your meals up into small, frequent doses at the rate with nausea, lecture protein helps. Ginger also helps. And you want to take medications that will not take your appetite away then when you normally eat. You will find it easier to eat first thing in the morning. You will want to be careful to test your taste palate and make adjustments in your food so things taste more normal to you.

>> There are a lot of misconceptions about healthy food. Don't be the person thinking that just because you put the doctor and nurse in the pot, you will have health food. One of the big things I hear about our antioxidants. Will they help me or harm me? I think this is an important topic to talk about. Antioxidants are a chemical in the body that counters at those contracts the effects of oxidation. You see oxidation every day when something rests or turns a different color like metal tarnishing. If you have taken antioxidants, it reverses the breakdown that you see with oxidation. We think of antioxidants as Detective. During the time of treatment, often, when you are using radiation or chemotherapy or things like that, they work by increasing oxidation in the tumor and you will be asked to avoid things that would protect the tumor. However, I don't think antioxidants in foods will be harmful at all. The research does not show that. You will know that food is high in antioxidants if you get brightly colored fruits and vegetables, spices; they were first used not just for taste but to preserve food. And beverages like tea, especially green tea.

>> If we look at studies, if we have a food that is rich in antioxidants, it tends to be better for preventing the recurrent or first event of cancer. I'm not going to show you this slide in general. This is what it would look like from a research article. The point of this slide is if you have high antioxidants and you take some supplements and vitamins, the risk for these patients tends to improve their survival. If you look at the literature, not what people are worried a route -- about, anti-oxidants include are helpful.

>> One diet that has been used with some success in brain tumor patients and in seizure patients is what we call the ketogenic diet. This is taking advantage of something that occurs naturally when you are not eating enough calories and your body starts to break down fat. It will release these pieces of that called key tones into the bloodstream. Normally, the brain does not metabolize these very well. Cancer cells cannot metabolize at all. And damaged cells cannot metabolize at all. The idea is if we put the body into a state of making key tones by dropping what you are eating and making sure you have no carbohydrates, very low carbohydrate and eating more fat, then you will get your body into this metabolic state where the normal brain cells will be used -- forced to use key tones but the abnormal cells will not be able to use them. It successful in animal models. It's tricky to do, so it should not be done without supervision from your physicians, nurses, and hospital team. It really is Rob of Lee to difficult to do with diabetic patients. It should not be done and paces -- patients who have lost a lot of weight. That is what this means. This is how much sugar is in the blood. This is how many of the key tones are in the blood. Down on the other side. Remember I told you we don't want you to eat a lot of simple sugars because it dumped a lot of sugar in the blood; there is two parts to this. That sugar goes to the tumor easily. It easy for the abnormal cells or the tumor to use it and we don't like that. It

also dumps out a lot of insulin -- insulin. As you change what you eat. Down here no change in diet, no change in ketones. The diet starts here. As you push down the number of carbohydrates you eat and you are pushing down the number of sugar you put in your blood and you restrict your calories a little bit, then you see the ketones starts to rise. There's a sweet spot where you push things down just enough to get a good amount of ketones. Here is where in animal models and some human models growth has slowed down. You do not want to go into starvation mode and you don't want to lose a lot of weight. That's why it's tricky. Not everybody can do it. Some patients have had results with this year I would discuss the option if you want to try this with your physician because it cannot, should not, do not do this without the active participation of your medical team.

>> Now we come to some of the more aggressive treatments that we often use. This is a position talking to his patients, yes, we found the mass but we have weapons of mass distraction. I think that description of mass instruction describes the patient feeling because my patients are always and rightfully fearful of what is going to happen when they take these strong, potentially toxic therapies. These are the symptoms you might see. Either as a result of your treatment, or from the original tumor itself.

>> We are going to talk about some of these actual symptoms in more detail now. We know that if your quality of life is better you will survive your brain tumor longer. This seems straightforward. But it's been shown clearly that if you don't have fatigue, you live longer and do better. If you do have fatigue, you have a lower curve. If you are not fatigued, you are able to maintain more normal activities for a longer period of time. Also if you are depressed, physically depressed, not down and upset because this is tough news, but the real medical illness, depression, that your survival time is cut either two thirds or one third. If you have medical complications, in needs to be addressed. If you're not able to get around and feel like you have a good quality of life, then needs to be addressed. Both of those will help your survival.

>> This is look at physical complications. When people are physically depressed, they got more deep vein clots, more infections, more adverse drug reactions and seizures were harder to control. If someone asked you, are you feeling depressed, it's not a judgment about are you strong enough to cope with this, but it's about if you had the wrong neurotransmitters in your brain, the physical disease of depression, you will impair your ability to fight and to do well and live longer. By all means, don't take offense at that question, the get the proper medication that you need. Same kind of thing. Depressed, not depressed. Longer survival is not depressed.

>> One way you could take -- one role you can take in your management of mood and stress and depression is to practice stress management. This is important of any treatment program. It will help with your symptoms and improve your quality of life here there are many ways you can do this. You can do yoga. This is a stretch thing -- stretching, breathing, relaxation practice. Make sure you know how to adjust poses. You shouldn't do poses with pressures in the brain that when you turn your head upside down, if you know about yoga, I don't have a brain tumor patient doing downward facing dog. They will adapt the move. Any form of meditation, visualization, making pictures of the tumor melting away in your mind. Doing mindfulness based stress reduction. Anything like this. For many people prayer is a form of meditation, besides just

the religious benefits, getting into that prayerful, quite state is very healing for your body. You can keep a journal and write in the journal and make pictures. You can participate consciously in activities that are joyful. I have had so many patients say to me, I love my kids. I love my dog. But I'm going to stay away from my grandchildren because I don't want to get sick. Well let's make a way of seeing as much of your grandchildren as possible because it will make you feel better. I do a practice myself where I write down three things every day that I'm grateful for and why I think they happened. There's strong literature to show that this really just -- readjustment of my attitude will help with anxiety, depression, and helps me rededicate myself to why I do the work I do. Something as simple as getting out in nature. If you can't walk, get in a wheelchair. Not only will the bump up vitamin D, but it is one of the most healing strategies that you can do. Make sure the things that give you joy you do every day.

>> Even massage has been shown, the blue dots are people who of gone massage and you can see the stress going down as they get massages. Every week. They come way below the stress threshold. What's interesting about some of these techniques like massage is it works while you are doing it but the week that they start doing massage, the stress came back up again. It doesn't mean don't do besides. I think the great thing would be to teach your family member to do a hand, foot massage. It's a technique that needs to be applied consistently. Meditation practice is like riding a bicycle. It's a skill you have to practice. Walking outside will be a good stress reliever.

>> Many will want to use traditional medicine, acupuncture, and herbs. Find one that has experience with treating cancer patients. Talk to friends, doctors, pharmacies. The thing that occupants are good for is nausea, pain, anxiety, fatigue, and dry mouth. There are very few contraindications and most of them can be worked around. Chinese herbal medicine, these are pretty strong interventions. You should not take those without the medical team, talking to the Chinese practitioner. Don't stop if your first treatment did not work right away. You can sometimes go for four weeks to see a full response of treatment.

>> There have been a few studies about that. Studies looking at nausea after sturdy -- surgery with patients. Patients got regular -- relatively simple acupuncture. It's right where he your watchmen hits your arm on the palm side. You could get this acupuncture with the needle and also end up doing it with acupressure. The routes -- results are good. A cerebellar tumor as well as a simple tumor. In both groups of those kinds of patients got benefit.

>> A second study that got a similar benefit with acupuncture for radiation. I know many of you have gone through that. Patients were nauseated and had less general well-being, more anxiety and more depressed mood. Sometimes treating one symptom can push out a lot more benefit. There are a lot of supplements that could be used. I am going to Mark a few here in yellow that we will talk about.

>> Starting with carnitine which is an amino acid which is useful for radiation-induced fatigue. Sometimes you feel tired during radiation as a side effect to the radiation. They have had a small number of patients, about 18 patients, most of them were deficient in this amino acid before they started treatment. They gave people carnitine and they got their carnitine to come

up and it helped their fatigue. Carnitine gets burned in the energy system that helps produce energy for the body. That's how that works.

>> I know a lot of you have edema. And you have edema either because of the tumor itself or because of steroids being used to try to protect and therefore, because of the tumor or treatment, because after radiation they can be swelling that occurs as 12 -- self.. You are often given corticosteroids there or it's too limit the swelling those swelling. You know there's side effects from corticosteroids. In order to try to help with edema and not use so many corticosteroids, we look at the use of an herb called Boswellia. This is the plant name. It is frankincense. If you have been to a church where they use incense, that is almost always frankincense. This is a small study with a small number of patients. They took a couple of different kinds of patients, most had edema and they gave them a particular and stock -- extract of Boswellia at a high dose, 1200 mg three times a day. I don't really think Haitians need to use that much to start. Edema was reduced in a significant component of both groups. It allowed steroid discontinuation in 3/5 patients in the second group. It looked like it was very helpful in stopping edema related to treatment and it was easy to take and did not cause upset stomach. This is a bigger study. Patients with brain tumors or brain metastases were going to do partial or whole brain radiation of to about 60% of the brain volume. Very significant. 44 patients with two arms, the dose that was used was around 1200 1202 1200 240 mg -- 1200 to 1400 mg a day year at the end of the radiation, patients who had gotten a tumor response had decreased radiation. And this group, they didn't take away any of their other medications, but there was no increase in adverse events, which is good. And there was a little bit of patients, one patient, that had some diarrhea, but nothing significant enough to stop treatment. Evidence for benefit for using this Boswellia or frankincense. If you are going to use an herb. It is important that you get an herb that is similar to the one tested in the study. As you talk to your healthcare provider, you want to ask for recommendations to what brand is good.

>> Ginkgo has also been shown to help with brain were irradiation. I can see we are coming close to the end of the time. I am going to skip some of these slides. They will be there for you to see and are easy to read. I want time to talk about caretakers. They always get pushed to the last slide. If you have enjoyed the way I talk about this, you can always come onto my website, [DrMaryHardy.com](http://DrMaryHardy.com). We will keep you up on the latest literature. I have a spot now where we can answer some questions.

>> Panky so much for doing this for us. We appreciate it. I'm going to read some questions to you. If you have a question that you would like to ask, type it in and submit it using the question box on the webinar control panel on the right hand of the screen. One person is interested in the role of therapies such as massage.

>> Heart maps is a style of training biofeedback training. It teaches you, it usually uses spencers -- centers on your fingers and sometimes on your ear and you watch your heart rate. If you are stressed out, your heart rate is high and it does not vary. But by doing these meditation gains on the computer that heart map uses, as you get more relaxed your heart rate varies more and you are given feedback why you are looking at it. that's another very nice style for meditation. And for people who are younger and play video games, that's a nice interface. Or if you are very

concrete and you like to see your results and front of you, it's a good technique. Ricky is a healing touch. It is an energetic treatment. People can be certified and trained for that. One of the major benefits of that type of therapy is that many patients find it to be deeply relaxing. It is also a nice treatment to give. It is a nice thing, so the person who gets -- gets the treatment is in a relaxed state, then the one receiving it does as well.

>> Someone has a question about the Paleo diet.

>> The Paleo diet is basically a low-carb, high-protein and if you do it right, is a lot of vegetables. Jude can -- the problem that I find with that diet is you eat a lot of meat. People generally get their protein from meat in that diet because they are avoiding grains -- carbs. You have to be careful. Include a lot of fish as opposed to meat only. You could use the diet as one of the ketogenic types of diet. Be careful with good nutrition. Check with a nutritionist.

>> What dose of vitamin D would you recommend?

>> Vitamin D is one of my favorite things to talk about. I think vitamin D is very important. It does a bunch of things. It helps with immune system support and fight off infection and helps tumors to become less abnormal and more normal. I think you want to know your vitamin D level. Ask your doctors to draw vitamin D levels. There is no magic number. I would say, if you don't have the ability to get your blood number and follow it, I would say, at least 2000 international unit. If you get your number and you know, if you are under 20, you are considered deficient. People who have tumors in general are deficient in vitamin D. Most of us are deficient in vitamin D. If you know your number is 20, we want to get you around 50. Then you would work with your clinician to get either a prescription for vitamin D or take it over the counter. Your dose Woodberry because everyone needs a different amount. If you don't know your blood number, get it up to 50 ML.

>> There are two questions regarding immune system. One is asking about Celebrex and the other one is asking about him of flex.

>> There is a connection between immune function and inflammation. Celebrex, these are drugs that shut down or dampen inflammation in the body. You can use those medications, but I can also use, with my patients, fish oil. I can use procurement or Boswellia. Those will have anti-inflammatory properties as well. I can modify the diet so that people are not seeing those eating inflammatory diets. I like to do the diet, exercise, meditation part before I go straight to the drug. You would be surprised how much benefit you will get from the lifestyle choices. And you just don't get anti-inflammatory benefits but you get a lot of other different benefits from lifestyle change.

>> Do you know any practitioners or facilities for someone to visit to learn about the ketogenic diet?

>> I went online and looked it up and there are sites online that will tell you about it. I would recommend that you find a nutritionist to work with to do this. You should have the capacity to measure ketones in your urine. Ideally, I would like to see it measure your blood sugar as well.

That is an intriguing, potentially useful diet, but it's tricky. You have to find a professional team to advise you when doing that.

>> That the topic we hear a lot about online. Another question is, and you discuss the emerging evidence that medical marijuana is a beneficiary -- beneficial approach.

>> I do recommend patients to use this. I think it is incredibly useful. I think it has gotten messed up by all of the other political and legal things that get attached to it. The components that you are interested in when you think about using medical marijuana, THC, which is the component that is psychoactive and alters your perception. CBD is anti-inflammatory and early data suggest that anti-carcinogenic. It can be extremely useful for Mark -- nausea and promoting appetite. When I send patients that have a brain tumor where we want -- don't want to alter your thinking because if we alter your thinking with medication, that we cannot tell when you're thinking has changed. Is a because of the medication or increasing tumor or something going on with the tumor. I think this is generally good advice anyway when you use medical marijuana. Look for a type of marijuana that is high in CBD. You will get more of the therapeutic of that -- affect without so much of the mind altering affect. However, if you use it forcefully, you may want some THC because that tends to be more sedative. There's a lot of research coming out. I was at a conference yesterday where this topic was talked about. I would hope that we can find a way to make people have access to legal, well-made, safe medicinal marijuana. And if you are going to do this, either you find a dispensary that is very knowledgeable and can talk to medical patients or you need to find a physician who knows how to use this material and talk to them.

>> The same gentleman is worried about how much CBD -- CBD can be ingested safely per day.

>> That is a little bit more difficult. If you are looking for a therapeutic CBD, because you do develop tolerance as you use it. You will find CBD containing strains that are anywhere from 5% to 12% to even 15%. Anywhere between five and 12 and have percent CBD. I was always starting at the lower dose in terms of the less concentrated and then only gradually. I also tell them to use continually. The dose that is appropriate is the dose that gives you best -- maximum benefit without interfering with your ability to interact with your family, friends to do yourself care and go out and exercise. You don't want to be stoned so that you can't participate in your life. That's not the point. The point is to get your symptoms minimized so that you can participate more in your life.

>> Great here we have a question about aspartame. Does it have any lasting effects on brain tumors?

>> This is not something I have done a lot of reading about. I can tell you that the thing about these artificial sweeteners, I think there was some animal studies with aspartame. The difficulty is that artificial sweeteners can still activate your glucose button. I mean, your insulin button. They can still bind to insulin. Even though you don't get the calories, and that is decent, you may still get some of the adverse metabolic effects. So we try to encourage people to decrease their sweet tooth, because we are used to eating overly sweetened things. If you are going to

sweeten something you can use a Stevia and you can use some honey or agave. I think a little bit of sweet is fine, but a lot is not.

>> Great. One last question. It's a bunch bundled together. It seems like people do not know where to start. Their doctor does not have this conversation with them, so how would a patient or family member oh about finding a practitioner in their area?

>> Okay. So I think there are a couple of possibilities. I would go to the society for integrated oncology. Finder website online. If we don't have a completed website yet, we are working on a roster. I would go to the American holistic medical Association or Other place you can find Bergman patients from practitioners. I would also get more created -- creative about your community. Let's say you have an acupuncturist that you like but you want to find out about a physician that will participate with you. Ask your acupuncturist or the best health food store in your neighborhood, who do they like, or who do they send their customers too. I invite you to come to the website. We will have a lot of formation -- information. If we have enough questions on the same thing, I will write an answer to those questions. We have been thinking about doing a live chat. Something like this but without as many slides. I will put it up on the website.

>> Great. That's all the time we have for today. Thank you for joining us and thanks again to Dr. Hardy. We appreciate you participating in this.

>> I preach it the opportunity.

>> We will pause for a moment to conclude our webinar recording.

>> We invite you all to continue to check back at our website – [www.abta.org](http://www.abta.org). Our next webinar is Thursday, November 7, same time to to 3 PM central time and it will discuss treatment and care updates. We have one on Thursday, November 14, same time, for family discussions and relationships when coping with pediatric brain tumor. With the director of Camp sunshine that hosts sessions for brain tumor children. You can register for all of these webinars under upcoming webinars on our website. This concludes our webinar. Thank you for joining us and please complete the survey. You may now disconnect.[ Event Concluded ]