LEUKEMIA & LYMPHOMA SOCIETY®

THE BLOODLINE WITH LLS

A PODCAST FOR PATIENTS AND CAREGIVERS

Episode: 'Mantle Cell Lymphoma (MCL) Part One: Treatment Advances'

Description:

Join us as we speak to Dr. Benjamin Lampson of Dana-Farber Cancer Institute in Boston, MA. In Part One of this two-part series on mantle cell lymphoma (MCL), Dr. Lampson discusses the latest treatment advances for MCL. With more treatments available than just a few years ago, Dr. Lampson shares how his conversations with his patients have changed, providing more hope after a diagnosis of MCL.

Be sure to tune into Part 2 launching on May 23, 2022, where Dr. Lampson will focus on the exciting possibilities of CAR T-cell therapy for MCL.

Transcript:

Elissa: Welcome to *The Bloodline with LLS*. I'm Elissa.

Lizette: And I'm Lizette. Thank you so much for joining us on this episode.

Elissa: Today we will be speaking to Dr. Benjamin Lampson, a Hematologist/Oncologist and Instructor of Medicine at Dana-Farber Cancer Institute in Boston, Massachusetts. His clinical research focuses on clinical trials for the treatment of lymphoma and chronic lymphocytic leukemia, or CLL, and his laboratory research focuses on the identification of new ways to treat lymphoma.

Dr. Lampson was previously featured on *The Bloodline* podcast in July of 2020 in the episode titled, "Mantle Cell Lymphoma with Dr. Benjamin Lampson: What Patients Should Know," where he shared his journey into lymphoma research from a high school internship in a well-known doctor's lab to his brother's lymphoma diagnosis during college.

This is a special two-part series covering mantle cell lymphoma, or MCL. In part one, we will be covering the latest advances in MCL treatments. Be sure to tune in to part two where Dr. Lampson will be discussing CAR T cell therapy for MCL.

Welcome Dr. Lampson.

Benjamin Lampson, MD, PhD: Hello.

Elissa: So we discussed in the last podcast how you got into lymphoma research. I think it's a great story. In high school, you had gotten into an internship with Dr. John Byrd, who is the Chair of Leukemia Research at The Ohio State University. Then in college, your brother was diagnosed with Hodgkin lymphoma. You left a very good takeaway after your story, really that donors from 20,30 years ago have made such an incredible difference in the world of cancer today, whether it was funding a young student's research or saving a life of a college-age student who went on to become a major league soccer player. What are your thoughts on that today? How did donors really make a difference?

Dr. Lampson: I think that's a good question. And you're right, the last time we spoke, I told a story that was meant to emphasize how when we donate to and support scientific research, we never know what kind of major impact could happen decades down the line. And that's a good story, but maybe I should sing a different tune for the sequel just to spice things up a little.

Elissa: Okay!

Dr. Lampson: So, I'll say instead, this time around, maybe a more relevant takeaway is about how donors make a difference by focusing on the short-term effects of giving. So what do I mean by this? Well, some of the topics that we're going to talk about on this episode and the next episode are new therapies for mantle cell lymphoma. These therapies include things like a class of medication called BTK inhibitors, and their names are ibrutinib, acalabrutinib, zanubrutinib. We're also going to talk about CAR T-

cells. And I think the point to emphasize is not the names of the medication but rather the dates they were FDA approved.

So acalabrutinib is an oral pill that was FDA approved around October of 2017, and its close cousin zanubrutinib was FDA approved for mantle cell lymphoma in 2019, and CAR T-cells were FDA approved in 2020. And the point I'm trying to make is that all of these medications were recently discovered and approved. These advances all took place over an extremely short period of time. I practice medicine here in Boston, so, the analogy to make is that over the past five years, we've been getting drugs approved in mantle cell lymphoma at about the same rate that Tom Brady's been winning Super Bowls, okay. He's won three Super Bowls since 2017, and we've had three new drugs since 2017.

And the last time that you and I spoke, CAR T-cells hadn't been FDA approved for this disease.

And now they are. And that's thanks to the fast pace at which research can move when it's properly funded. When you donate, there are the abstract benefits that manifest decades down the line, but there are also very real, very concrete benefits that happen on a much shorter time scale.

And then I think the other thing to mention is it's fair to point out that, I'm a cancer researcher, so, of course, I'm going to say, "We need more donations to support cancer research." Some might even say that I'm biased, okay, but I guess my response is that I don't know that biased is really the right word because all I'm doing is acknowledging reality.

Elissa: Right.

Dr. Lampson: So, in the same way, if I say, "A plane moves faster than a bike," would you say that I'm biased toward the plane? I'm just making an observation about reality. I've seen with my owns eyes that a plane is faster than a bike, and I've

seen with my own eyes that research can move forward and change how we treat this disease. And so I can remember in my own career, which isn't that long, just a few years ago, having conversations with patients whose disease had come back after receiving many different lines of therapy and having to tell them that we don't have anything else to offer.

And now with this same type of patient, the same conversation, I can tell them we have CAR T-cells, we have zanubrutinib, we have acalabrutinib, we have venetoclax, etc. So that's the pace that research can move when it's properly funded, and that's the difference that donors can make.

Elissa: I love that. I feel like 2017 almost seemed to be that golden year where, all of a sudden, we just started getting so many new treatments in blood cancer and I mean every single year so many new treatments. It's just really amazing in the past five years how much we have moved forward with blood cancer treatments in general but then especially MCL.

Dr. Lampson: Yeah. You're absolutely right. We've entered a golden age, and it's not over.

Elissa: I love it.

Lizette: This episode series is on mantle cell lymphoma or MCL, which is a sub-type of non-Hodgkin lymphoma. Doctor, can you tell our listeners what MCL is?

Dr. Lampson: Yeah. I think that's a good point that it's not one of the most common cancers. If you look at the numbers, it's going to be around 5,000 patients a year in America that get this disease, so that's not extraordinarily rare but it is rare in terms of other cancers. So for a doctor, like myself, that exclusively treats lymphoma, it's a disease that I see fairly commonly.

But, to break down the terminology and understand it, mantle cell lymphoma, what does that mean? Well, first let's talk about the lymphoma part. Lymphoma means a

cancer of white blood cells. So remember that white blood cells are a normal part of our body. They circulate back and forth between the blood and the lymph nodes as they hunt for bacteria and fight infection.

These normal white blood cells also go through a lifecycle of birth and death. So each day millions of white blood cells in our body die and new ones are born to go out and replace the ones that have died and, and begin a fresh hunt for foreign invaders. But for some reason, in some people, one of those millions of cells gets a mutation in its DNA, an error in its instructions, and this error tells the cell not to hunt for microbes but, rather to make a copy of itself. Don't go through the normal lifecycle.

So, when a cell behaves like that, when a cell starts making unauthorized copies of itself, that's what we call a cancer cell, and when it's a white blood cell, it's a lymphoma cell.

And after that cell makes a copy of itself, now we have two cells with bad instructions. These two makes copies of themselves, so now we have four, and then eight, and eventually you have a collection of these abnormal cancerous white blood cells, these lymphoma cells in the lymph node.

So as for the mantle cell part of mantle cell lymphoma, well this has to do with the anatomy that we learn in medical school. When you take out a normal lymph node and you look at it under the microscope, you can clearly see different regions within the lymph node. One of these regions is called the mantle zone of the lymph node, and it's thought that a mantle cell lymphoma arises from one of the white blood cells that normally lives in the mantle zone. So that's what mantle cell lymphoma is.

I should say this is just a broad overview of the disease. This is at a very basic level. There may be people out there who want more detailed reading on mantle cell lymphoma, and for those patients, I'm going to direct them to The Leukemia & Lymphoma Society website because I think you guys have a lot of great reading material for patients that gets fairly deeply into all aspects of diagnosis and treatment.

And I often refer my own patients to your website, so it seems only prudent that I would do the same thing now.

Elissa: Well, thank you. Yes, there's some great information. We'll have some at the end of the episode.

Now what are the common signs and symptoms that would get somebody diagnosed and what distinguishes MCL from other non-Hodgkin subtypes?

Dr. Lampson: Yeah. How do we find out that someone has mantle cell lymphoma? Well, I'd say it goes back to the story that I was telling about how a cell makes a copy of itself until we have a large cluster of mantle cell lymphoma cells. And typically, what happens is that cluster of cells causes some symptom that the patient notices. So, for example, if the cluster gathers in a lymph node, then maybe the patient is feeling their neck one day and, all of a sudden, they notice a lump in the neck, an enlarged lymph node in the neck where there wasn't one before.

But the mantle cell lymphoma cells can also travel. They can move out of the lymph node. They can go to other places in the body and cause symptoms there. They can gather in the spleen, an organ in the abdomen and they can cause the spleen to get big, so patients can have abdominal pain and lose weight. They can gather in the bone marrow where the normal blood cells are made. And if those normal cells are crowded out by the mantle cell lymphoma cells, then the patient's normal blood cell counts will drop and the patient's going to feel fatigued and tired and won't have as many normal red blood cells to carry oxygen around. They can gather in the lining of the intestines, so patients can experience diarrhea or blood in the stool.

So what happens is a patient experiences one of these symptoms, they present to the doctor, and, eventually, one of the doctors decides to do a biopsy of an affected organ, and the biopsy is looked at under the microscope. The pathologists very carefully characterize the abnormal white blood cells. And mantle cell lymphoma has a very particular characterization that distinguishes it from the 70 other subtypes of

lymphoma and so we can identify from that biopsy that, yes, these are abnormal white blood cells, and these are specifically mantle cell lymphoma cells.

The other thing to add is the discussion about symptoms and how the disease is diagnosed, it's a good one and it's an important one to hear, even for people who already have a diagnosis of mantle cell lymphoma because it's the same type of symptoms that we use to diagnose; these are the symptoms that we also use to tell us if it's come back. So, many patients after treatment enter a period, hopefully lasting many years, where the mantle cell is in remission, and we're just watching them very closely, what we call active surveillance, for any signs or symptoms that the mantle cell lymphoma's come back.

And what are those symptoms we're looking for? Well, it's the same ones that we just talked about – new enlarging lymph nodes and new pain, unexplained weight loss, blood in the stool, these kind of things. So, these are the kind of things that you'd want to report to your doctor if you're all the sudden experiencing them again.

Elissa: Now a lot of blood cancer patients end up getting diagnosed with certain blood cancers without any signs or symptoms. Is that something that can happen with MCL as well?

Dr. Lampson: Yes. Definitely on routine testing we can often pick up abnormalities on routine blood tests that hint that a mantle cell lymphoma might be there. So there is a small fraction of patients that are diagnosed on routine testing done at the time of a physical exam that ends up turning out to be mantle cell lymphoma.

Elissa: And MCL also can be distinguished in a couple categories, aggressive versus indolent. Could you explain that and also if those matter as to if you get treatment right away?

Dr. Lampson: Yeah. The question about, how do we determine if a patient needs treatment right away, and is this a more aggressive form or a more indolent form, this

is a really important and good question for mantle cell lymphoma. And I would say there's actually a deeper question behind that. And another way to phrase that is well what is the goal of treatment? What are we trying to do when we treat the mantle cell lymphoma cells?

And this might seem like a strange question to ask because for most other cancers, like breast cancer or lung cancer or colon cancer, the goal of treatment is often pretty clear; get rid of every last cancer cell in the body, quote/unquote, "cure the cancer." But with mantle cell lymphoma, that question, "What is the goal of treatment?" I'd answer it slightly differently. And this is because we know that our standard chemotherapy cannot cure this disease. Long-term studies of patients who get chemotherapy show us that while chemotherapy can send the disease into a very, very deep remission, it doesn't seem to be able to get rid of every last lymphoma cell in the body. And eventually, it might be years, it might be decades, we hear from the mantle cell lymphoma again.

So to say that the goal is cure, getting rid of every single last cell like it is for lung cancer, that's unrealistic. I would say this is often a tough thing for patients to hear. But then I tell them that the goal of treatment for mantle cell lymphoma is still a very important and achievable one and, in fact, I think it's fundamentally equivalent to curing the disease. The goal of treatment is to try and make sure the disease does not impact the patient's quality of life or quantity of life.

And this is like a lot of other diseases in medicine, things like high blood pressure or diabetes or COPD, these diseases are hard to cure too. So instead, our goal as doctors is to try to do everything, we can do to make sure that these diseases don't limit a patient's lifespan and what a patient can do.

So we give the patient with diabetes medications to bring down their blood sugar. This doesn't cure the diabetes, but it decreases the diabetes impact on the body so

that it, hopefully, doesn't cause problems and it, hopefully, doesn't impact the patient's lifespan.

And in the same way, when we see a patient with mantle cell lymphoma, we first ask ourselves, "Okay, right now is this disease impacting the patient's quality of life? Is it causing them symptoms? Do we think the mantle cell lymphoma could shorten their life? Is it affecting the function of one of their organs?" And if the answer to any of these questions is yes, then, of course, we treat it. We knock it down so that it's no longer causing symptoms so that the patient can live their life.

But there are a minority of patients, somewhere in the neighborhood of around 10%, who when we ask these questions the answer is no, it's not causing any symptoms. It's not causing any organ dysfunction. These are the patients where it's been picked up on a routine blood test or sometimes a routine colonoscopy. And for these patients where it's not impacting their quality of life, treatment doesn't make much sense because treatment has side effects. So it's just going to cause side effects and there's no benefit. So in some, I'll say there's a small fraction of patients who don't need treatment right away and can be observed. So I think that's the longwinded answer to your question.

Lizette: So what is the current standard treatment for mantle cell lymphoma? Are there differences in treatment for age or if they have an aggressive verse slower growing form of mantle cell lymphoma?

Dr. Lampson: The thing about mantle cell lymphoma, perhaps almost more so than almost any other type of lymphoma, is that there's a broad variety of reasonable choices when thinking about treatment. To put it simply, we've just got a lot of effective therapies for this disease to choose from.

So how do we decide between them? Well, we take two things into account. First, we take into account the individual characteristics of the patient. So, each patient is different in their own way. Some are old and some are young, and some have other

medical conditions that we need to watch and be careful about, and some are otherwise very healthy. And then there's the individual characteristics of the mantle cell lymphoma cells themselves. So, what are the changes they have in their DNA? What organs are they present in? And we put these two things together that are characteristics of the patient and the characteristics of the disease to try to decide what the best treatment is among the options that we have.

That being said, I will mention, for most patients, that initial treatment of mantle cell lymphoma often involves the medication rituximab in combination with chemotherapy. I talked some about this in the last episode, but just to recap briefly some of that, to talk about chemo, remember that chemotherapy is a very broad term that we use to describe drugs that indiscriminately kill any rapidly dividing cells.

The most rapidly dividing cells in the body are the cancer cells, but there's other rapidly dividing cells in the body too; the normal blood cells, so chemotherapy can drop blood counts; the hair cells, so chemotherapy can cause hair loss; the cells that line the intestine, so chemotherapy can cause diarrhea, nausea, vomiting. So, I would keep that in mind when thinking about chemo. And there's many different types of chemo drugs that a doctor can choose from, and the preference that a doctor has will depend on their own experience and then the side effects that we may be wishing to avoid in the particular patient.

And then, just to talk about rituximab briefly, because I mentioned most first-line options are rituximab in combo with chemotherapy. It's an IV drug. It can also be given subcutaneously. And rituximab is not really a chemotherapy in the way that I previously described chemotherapy as a drug that indiscriminately kills rapidly dividing cells. Instead, rituximab binds to the outside surface of the white blood cells and causes them to die. So it doesn't cause hair loss, it doesn't cause, nausea.

The side effects that we worry about with rituximab are different. There's something called infusion-related reactions whereas the drug is being given to the patient

intravenously. The patient can feel fevers and chills as the tumor cells are being broken apart. There can be allergic reactions to the drug where patients can have hives or even more severe allergic reactions.

And, just another one to mention to keep things topical and relevant is a major side effect of rituximab that we've been learning about more so in the past year or two is that it can increase the risk of certain infections. And most relevant right now rituximab can make it very hard for the body to fight back against coronavirus. And what's almost a double whammy is that not only does it make it hard for the immune system to fight the coronavirus, it also makes it hard for the immune system to respond to the COVID vaccine. So patients who received rituximab, particularly if they received rituximab within the past year, are at increased risk for complications from COVID and also have a blunted response to the COVID vaccine. So this is a risk that we're aware of and there are things we can do to try to mitigate the risk, but I mention to all my patients before we get started with rituximab therapy that we're going to need to be cautious when it comes to COVID and taking precautions around COVID.

Lizette: Sure. And what are you telling your patients actually about the vaccines, patients who have mantle cell lymphoma? Should they be getting the vaccines?

Dr. Lampson: Yes. So because the mantle cell lymphoma itself as well as the rituximab makes it hard for the body to fight off the coronavirus, we need to do everything we can to try to help the body prepare for that possible infection. And even though rituximab can blunt the response, we still recommend the vaccine to patients who have gotten rituximab because there does still seem to be some benefit, while lessened, in patients who have mantle cell lymphoma who have had rituximab that they should still get the vaccines.

The other thing I mention to patients is that we have treatments for COVID, and the treatments for COVID are most effective when given as soon as possible after a patient

knows that they have a COVID infection. So I tell them, "If you think you have COVID, if you have symptoms of COVID, or if you're diagnosed with COVID, you need to call me as soon as possible because then I need to start the ball rolling on getting you treatments for COVID."

And there is a final category of treatments where we can actually give patients preventative medications before their diagnosed with COVID to try to prevent severe infections from happening. Now the vaccines, of course, are a part of this because I mentioned the vaccines have blunted efficacy. So, in addition to the vaccines, we can also give antibodies themselves to patients, long-lasting antibodies that, hopefully, help prevent them from getting coronavirus or, if they do get it, help prevent it from becoming severe. So these are all the therapies that have evolved over the past basically year to help out patients who can't respond to the vaccine.

Lizette: Right. I think it's very important that you have that discussion with your patients, as patients are coming to LLS and asking about different strategies to assist them with COVID, especially since some have found that they have not had any antibodies from the vaccines. So I do say thank you for having that discussion with your patients.

Dr. Lampson: Yeah. Well, and I should say thank you to you guys because, for a very long period of time a big question that patients had after getting the vaccine was, "Well am I one of those patients who had a response? Did I develop antibodies in response to the COVID vaccine?" And The Leukemia & Lymphoma Society actually ran, and is still running, one of the largest studies in the United States where they're examining the antibody response in patients with blood cancers who have gotten the vaccine or gotten COVID to try to help us understand what are their predictors. Why might some patients respond, and other patients don't?

And so, actually, a lot of the information that I'm telling you now comes from studies that were run by the LLS itself. And before we had antibody testing widely available, if

any patient asked me, "What are my antibody levels?" I would refer them to you guys. I'd tell them, "Okay, LLS has this study. Go to LLS website, sign up for this study and become a part of it." And they would learn their antibody levels and also sort of be hooked into the system. I know that a couple of my patients they've also donated blood to study other aspects of the immune response to the COVID vaccine like T-cell response and things like that. I think I should point out the leading role that LLS has had in understanding on a national level, how patients with blood cancers are affected by COVID and how they respond to the COVID vaccines.

Elissa: Yeah. That's really great. We actually had an update from Dr. Greenberger and Dr. Larry Saltzman that were running the study, so the listeners can find that in March. We will also have a link in the Show Notes so they can get the update on all the vaccines and what's happening with COVID and Evusheld, the monoclonal antibodies. So there's lots of good information there for the patients.

So we talked about chemotherapy, what about things like stem cell transplant? I believe you do both allogeneic and autologous stem cell transplants for patients?

Dr. Lampson: That's right. The first thing to recognize is that there's two types of stem cell transplants. And I'm going to discuss each one separately because they're used in different situations.

So the first type of stem cell transplant is called an autologous stem cell transplant. Autologous stem cells means a patient's own stem cells.

When we talk about stem cells, by the way, we're talking about the stem cells that make the components of blood. So the stem cells that make the white blood cells, the red blood cells, and the platelets. So how does this work and what are we doing here?

Well, the idea behind an autologous stem cell transplant is we want to give a very high dose of chemotherapy to really slam the lymphoma cells hard to absolutely kill as many as we can. But this walloping dose is so high that it actually also kills all the

normal bone marrow stem cells in the body too. So it kills the cells that are responsible for making our blood. Now this is, obviously, a huge side effect. So to get around this side effect what we do is before giving the chemo, we collect some stem cells from the patient themselves and we put those stem cells in the freezer. Then we give the chemo, and the day after the chemo is over, we thaw the stem cells and infuse them back into the patient.

These stem cells have never seen the chemo because they were sitting in the freezer when the chemo was given, so they act normally. They hone to the bone marrow, they set up shop, and after a few weeks, they start producing the normal blood cells again. So this is an autologous stem cell transplant. My personal preferred term is actually high-dose chemotherapy with autologous stem cell rescue. If you think about it, that is a more accurate depiction of what's actually being done.

So autologous stem cell transplants when do we use them? Well, they're more commonly used in younger patients who are able to tolerate the high doses of chemotherapy that we give, and they're often used, after chemo has shrunk the majority of the disease, we do an autologous stem cell transplant to sort of try to provide one big knockout punch to deepen the remission and make it last as long as possible. So that's the autologous stem cell transplant.

The allogeneic stem cell transplant, well, allogeneic means from another person, from a different person. Sometimes it's a relative; sometimes it's an unrelated person whose immune cells closely match the cells of the patient. And with this type of transplant, it's a whole different idea. A patient is given a lower dose of chemo and then the patient receives, through an infusion, the stem cells of another person.

Now this is an interesting therapy because it turns out the stem cells from the other person can recognize the patient's lymphoma cells, fight them, and kill them. So an allogeneic stem cell transplant, this time around it's not really about the chemo. It's

more about the effect of the new stem cells, the new immune system fighting the disease. We call this the graft-versus-lymphoma effect.

So while this procedure can be very effective, getting stem cells from another person also carries risk because there can be significant side effects. For example, sometimes the new stem cells can attack the patient's normal body, not just the lymphoma cells but the normal body cells. We call this graft-versus-host disease. So because of this risk, we really only save this therapy for patients who have very aggressive disease that has broken through or progressed on multiple other lines of therapy.

Elissa: That's good to know and it's good to know the differences as well with the two different types of transplants.

Now, we went over all these different types of chemotherapies and drugs and then transplant. When we spoke to you last, a couple years ago, you shared some new treatments and, of course, those seem to be very commonplace now. As our patients and caregivers probably know and as we discussed before, research and new treatments can change so quickly and I'm sure they've changed a lot in the past two years. So what new treatments have come out since we last spoke to you, and what is on the horizon that you're excited about?

Dr. Lampson: I mentioned at the beginning this class of drugs called BTK inhibitors. The drugs in this class, again, really aren't chemos. Rather they target a specific protein inside the mantle cell lymphoma cell that's important for its function called BTK. By blocking the function of this BTK protein, these drugs cause the mantle cell lymphoma cells to die.

But as you also mentioned, I don't think it's fair to say that BTK inhibitors are on the horizon anymore because the sun's already risen, it's already a bright sunny day. We have three BTK inhibitors approved for mantle cell lymphoma: ibrutinib, acalabrutinib, and zanubrutinib. Acalabrutinib and zanubrutinib are the two newer ones, and they

have less side effects than ibrutinib. But I will say there's even a new BTK inhibitor coming down the research pipeline, and this one I would say is on the horizon.

Elissa: Oh!

Dr. Lampson: It's a drug called pirtobrutinib. It's not yet FDA approved, so it's being studied in clinical trials. It's being tested in patients with mantle cell lymphoma and early results are promising. Every year the doctors who treat blood cancers get together at a very large conference called ASH (American Society of Hematology) and we talk about the latest findings from ongoing research studies. This past year in December of 2021, one of the studies presented was a clinical trial of pirtobrutinib in mantle cell lymphoma, and the results looked very promising. Pirtobrutinib was effective even in patients whose mantle cell lymphoma had grown on the other BTK inhibitors.

Elissa: Wow!

Dr. Lampson: It was effective even in patients whose mantle cell lymphoma had come back after stem cell transplants. So I would say that's a new medication within this class that's on the horizon. And pirtobrutinib wasn't the only new exciting clinical trial in mantle cell lymphoma that was presented at ASH.

We also saw data from a clinical trial of a drug called parsaclisib. This isn't a chemo either. It's an oral pill. It's specifically designed to block a gene product that's necessary for mantle cell lymphoma survival called PI3 kinase, so it's called a PI3 kinase inhibitor. And when this drug was given to patients whose disease had come back after chemo, about 70% of patients saw their disease shrink with just this simple oral pill. The results were so promising that the company that makes the drug has asked the FDA to approve it for general use so that it can be available to patients across the country outside of the clinical trial. And the FDA's considering that right now. So it's possible, I would say, that if we get together for another podcast in a year or two, we may be talking about parsaclisib has been FDA approved. And maybe

this is part of the reason Tom Brady came back is he knew that we were still racking up wins for mantle cell lymphoma, so he thought he-

Elissa: Exactly.

Dr. Lampson: -might have to rack up some more Super Bowl wins. So, we'll see who gets to Super Bowl first or who gets an FDA approval first.

Elissa: Oh! Oh, that's a good challenge. I like it.

Lizette: That is a good challenge. Wow!

Now that we've had all these new approved treatments and ones in clinical trials, what is the prognosis for a patient with mantle cell lymphoma? In another words, what is the likely course of the disease after these treatments?

Dr. Lampson: Every patient's different and no doctor has a crystal ball. But, when my patients ask me prognosis, I think, as doctors, the best we can do is say things like, "Hours to days, days to weeks, weeks to months, months to years." And for mantle cell lymphoma, I'd say, "Years to decades." Right. Patients are living a very long time with this disease and perhaps the most important word in that sentence is living in the sense of patients are living their life, right. These therapies that I'm talking about are well-tolerated therapies. Oral pills taken once a day or twice a day. And even the chemo regimens we've gotten excellent at treating side effects of chemo. And the chemo regimens are often fixed duration, so we give it for a fixed period of time and then the patient's done so that patients can go on and live their lives, right. That's the whole point.

When I see my patients in follow-up, I want to hear what they've been doing with their life. I want to hear about the trips they've taken or the weddings they've attended or the grandkids they've played with, because that's the whole point and that's what we're getting with these new therapies.

Elissa: That's really great. Now as a final word and to finish up this episode, on our patient podcast home page, we have a quote that says, "After diagnosis comes hope." What would you say to mantle cell lymphoma patients and their families to give them hope for the future?

Dr. Lampson: Well, I'd say that they definitely need to listen to Episode 2-

Elissa: Yes.

Dr. Lampson: -because I mean as exciting as the therapies that we've spent some time on talking about and everything that's coming down the pipeline and the incredibly fast pace at which new drugs are being approved, not just for lymphoma but for mantle cell lymphoma, CAR T-cells have completely revolutionized, how we think about this disease, how we think about prognosis. And so, there's so much hope and so much optimism to be had. There's a reason I went into lymphoma as a specialty. It's because of the great outcomes that we can have and it's because of the hope that we can have and the pace at which research moves.

Elissa: Well, thank you so much, Dr. Lampson. I think this was a great discussion on really the general treatments. We are excited to get into CAR T-cell in the next episode, so listeners be sure to tune into our very next episode where we will go over CAR T and hear about all the exciting things for that. But really, I think that you provided a lot of hope to patients and their families today so when they do face a diagnosis of mantle cell lymphoma, they see a good future and, hopefully, playing with the grandchildren, going on trips, and all of these wonderful things so that they can live their life outside of treatment. So this is great. Thank you so much.

Dr. Lampson: You're welcome.

Elissa: And thank you to everyone else listening today. *The Bloodline with LLS* is one part of the mission of The Leukemia & Lymphoma Society to improve the quality of lives of patients and their families.

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To help us continue to provide the engaging content for all people affected by cancer, we would like to ask you to complete a brief survey that can be found in the show notes or at TheBloodline.org. This is your opportunity to provide feedback and suggested topics that will help so many people.

We would also like to know about you and how we can serve you better. The survey is completely anonymous and no identifying information will be taken. We hope this podcast helped you today. Stay tuned for more information on the resources that LLS has for you or your loved ones who have been affected by cancer.

Have you or a loved one been affected by a blood cancer? LLS has many resources available to you: financial support, peer-to-peer connection, nutritional support, and more. We encourage patients and caregivers to contact our Information Specialists at 1-800-955-4572 or go to LLS.org/PatientSupport. You can find more information about mantle cell lymphoma at LLS.org/Lymphoma or CAR T-cell therapy at LLS.org/CARTtherapy.

Recent updates about COVID and vaccines can be found at LLS.org/Coronavirus. All of these links will be in the show notes or at TheBloodline.org. Thank you again for listening. Be sure to subscribe to *The Bloodline* so you don't miss an episode. We look forward to having you join us next time.