EPISODE 50: Spotlight on Pharmacists

Lisa Yen 00:00

Welcome to the Neuroendocrine Cancer Foundation podcast. I'm your host Lisa Yen. I'm the Director of Programs & Outreach, as well as a caregiver and advocate for my husband who is living with neuroendocrine cancer. In each podcast episode, we talk to an expert who answers your top 10 questions. This podcast is for educational purposes only and does not constitute medical advice. Please discuss your questions and concerns with your physician.

Lisa Yen 00:31

Welcome to today's episode of the Neuroendocrine Cancer Foundation podcast. Those of us who are living with neuroendocrine cancer or supporting a loved one with neuroendocrine cancer know that the treatment can feel complex -- different specialists and others in our multidisciplinary team, multiple medications and lots of information to keep track of. Well one member of the care team that you may not always see but who plays a critical role is the pharmacist.

So today, we will be talking to Dr Amanda Cass, a pharmacist who specializes in oncology and in particular, she works in thoracic oncology with our friend and colleague, Dr Robert Ramirez at Vanderbilt. Doctor Cass is a clinical pharmacist in the thoracic oncology clinic at Vanderbilt University Medical Center. And she received her Doctorate of Pharmacy from the University of Kentucky College of Pharmacy in 2016. She subsequently completed her Pharmacy Practice Residency at Grady Health System and became a board-certified pharmacotherapy specialist in 2017. In 2018, she completed her oncology pharmacy residency at the University of North Carolina Medical Center Dr Cass' previous research interests included opioid use in non-metastatic cancer patients after curative treatment, and albumin effects of oxaliplatin related toxicities.

Her current areas of interest are molecular mutations and the use of targeted therapies in non-small cell lung cancer, immunotherapy in small cell lung cancer and global oncology care. I've had the privilege and honor to get to know Dr Cass and work with her in the neuroendocrine cancer space. I feel that she's a great asset. It's been wonderful having lively discussions of how we can further advance the field and help neuroendocrine cancer patients. And I'm really happy to have her here with us today.

And one fun fact is that Dr Cass is planning a wedding. Her fiance is also a pharmacist, and together, sometimes they take care of the same neuroendocrine cancer patients. So, it's really fun to be joining together, both in a personal way and also professionally. So welcome, Dr Cass, and I just wanted to first of all welcome you and also ask how you got involved in neuroendocrine cancer.

Amanda Cass 02:47
Thank you so much for having me. I'm so happy to be here. So, my involvement in neuroendocrine cancer really started with Dr Robert Ramirez joining the Vanderbilt team. So, when he was initially hired, he hired for thoracic oncology, and then thoracic neuroendocrine and then has subsequently taken over all of our neuroendocrine program. And since I had such a familiar relationship with him, I talked to our GI oncology pharmacist, and they have a very busy clinic too, so offered to really take over the ownership of the neuroendocrine cancer patients. So really, those kind of fall under my clinic now and then, sometimes I work in conjunction with our GI oncology pharmacist. So, when he joined our team, that is when I started to become more familiar. You know, I never expected to go into neuroendocrine, but now it's been so fun to work with Dr Ramirez and learn about this and meet all the patients and help take care of them. Something that I really enjoy is helping patients navigate through this journey.

Lisa Yen 03:46
Well, we're grateful for your help with navigating patients through this journey. As you know, as you've been helping them, how complex it can be.

Amanda Cass 03:54
Absolutely.

Lisa Yen 03:55
And congrats on your upcoming wedding. We're really excited for you.

Amanda Cass
Thank you.

Lisa Yen 04:00
You know, I know that you and I have talked both personally, professionally. This is an area working with a pharmacist that...I think this conversation is going to be very practical, because this is someone that they may not know they have access to. And in my personal conversation with pharmacists, I'm amazed how practical the information can be. So, thank you again for coming on, and we really look forward to getting to pick your brain and learn a lot more from you.

Amanda Cass 04:24
Yeah, thanks.

Lisa Yen 04:25
Well, if you're ready, we'll just jump out with the questions. Okay, let's go big picture overview. Many patients may not know exactly what a pharmacist does. They might go to a retail pharmacy to pick up their medications, and that's their context of pharmacists. So, can you explain what a pharmacist is and what training they go through?

Amanda Cass 04:43
Yeah, absolutely, the most common description of a pharmacist that people are most familiar with are definitely that retail pharmacists that are helping in that dispensing process, and that's what I was familiar with when I went into pharmacy school. But pharmacy really has multiple different facets that you can go into, and so **Clinical Pharmacy** really drew me in. And so, what a clinical pharmacist does is, I always say it's a weird job for pharmacist, because we don't usually touch drugs. So, like, I'm not hands on with medications every day, but we're really part of that team and helping make treatment decisions, becoming experts in our disease states, really helping figure out more personalized treatment. Let's say guidelines recommend four different treatments. What's going to be best for your patient in front of us based on either their comorbidities, their lab values, other medications that they may be on? Things like that. So, we definitely help make those treatment decisions. I do a lot of patient education when patients are starting treatment, and I also do a lot of helping patients manage side effects. Patients have access to me through their health portal. They can message me directly. Even if they don't message me directly, they message someone else. If it's a question like that, our nurse forwards it onto me. And so, I really help, especially a lot of those therapies, the targeted therapies like cabozantinib, or even therapies like CAPTEM. I'm helping patients manage that so they can stay on the most optimal dose for as long as possible.

In terms of training, the baseline training for a pharmacist now in the US is a PharmD degree or a Doctor of Pharmacy degree, which is a four-year postgraduate degree where we have three years of classes and one year clinical. So, it's kind of near medical school in a sense, but we have a little bit more in the classroom and a little bit less in the hospital. And then, after that to be a clinical pharmacist specialist, most pharmacists do residency training similar to physicians. I did my PDY1—they just call it a pharmacotherapy residency, which is kind of just a general...Here, I rotated through several different disease states. And then my second year, I specialized in oncology. So really just worked with different oncology patients that whole entire year to really get a handle on how to manage some of these side effects and treatment. Even "how do I interpret this data even more in depth to apply it to patients?" And then pharmacists can be multiple different specialties, but in my job in particular, I focused on oncology.

Lisa Yen 06:58
Wow, this is really fascinating. I know that we look forward to picking your brain a little bit more about how you help patients start new treatments and manage side effects. And the other aspect of it, in terms of training, this may mean new information to a lot of people. They may not know that the training

is so involved and that there's a residency. And the audience has heard me refer to you as doctor. You have a PharmD. Pharmacists are addressed as doctor. Why is that, and how did that differ from what most of us think about when we hear doctor like a physician?

Amanda Cass 07:31
So, I think this is a very hot topic, because can come up with other specialties as well as such as nurse practitioners or things like that. And so, really that's based on the academic degree you have. So, it's a Doctorate of Pharmacy, and you can see that in several different other healthcare professions, or, like Doctor of Physical Therapy, Doctor of Nursing Practice....And so, that's more focused on that academic degree. Sometimes people prefer to go by that in a clinical setting. I know that patients traditionally think of doctor as their physician, but it really is more their academic degree than their profession, if that makes sense. I prefer not to go by doctor in the clinical setting because I don't want to confuse patients and they just call me Amanda. Some of them don't feel comfortable doing that, so they may not, but I'm always just telling them to call me Amanda. In the academic setting, I will go by the academic degree title, so it's really more a degree that the person has, not necessarily their profession.

Lisa Yen 08:26
Thank you for clarifying that the academic versus the clinical. And you worked really hard for that doctorate. That is definitely a well-deserved academic title. And of course, we can understand how that can be confusing in the clinical setting when people are very used to thinking of "doctor" a certain way.

Amanda Cass 08:43
Sometimes too, when I'm talking to patients, I'll say, you know, “I'm your **pharmacy doctor**,” and I explain to them that that's really to focus on their medicine. You know, I work with their team. So that's how I explain it sometimes. I feel like neuroendocrine patients especially are really great at doing their research before they go to different physicians and doctors. And they may see the pharmacist on the website; it may state, “Doctor whoever.” And so, if patients have seen that and asked about it, that's kind of how I explain it as well.

Lisa Yen 09:09
A pharmacy doctor. That's a helpful way to put that in context, the one that helps with the medications.

Amanda Cass 09:15
Yeah, absolutely. We always say too. You know, "**the drug information expert**" is the overarching, regardless of what specialty you're in. Even if you're in the retail setting, the pharmacist is always going to be that drug information expert.

Lisa Yen 09:27
Drug Information expert, that's a great way to put it. A really key way to kind of wrap it all together.

Amanda Cass 09:31
Yeah, I think when you get into these different subsets, it can be kind of hard to find an overarching thing. But I think that that's probably the best one.

Lisa Yen 09:39
Drug information specialist, okay, that's helpful. So, in cancer care, pharmacists are often part of a larger team. You've already alluded to that. What role do you play in that team, and how do you work with other specialists?

Amanda Cass 09:49
Yeah, so I sit in the room right next to my nurse practitioner, right next to my physician. One of the big things is continuity. So, both my nurse practitioner and I are in clinic every day. And as you know, physicians may not be in clinic every day, so if a patient is sick and they have to come into clinic on their non-physician day when the physician isn't in clinic, I always see patients at the very beginning of treatment so I know what their baseline is, and I can help discern, is this the patient's normal baseline? Is it not the patient's normal baseline? So, we really know how to move forward with treating the symptoms they may have. So, I really help with that continuity. The drug information expert for both the nurse practitioner, our nurses and our physicians. They're always coming in asking me, "Hey, this patient's having this is this normal? Is this not normal? What should we treat this symptom with?" Because a lot of these symptoms can be treated several different ways, and it goes back to what's going to be best for the patient in front of us. Are they still working? What other symptoms are they having? Is there something we can kill two birds, one stone. And then I really do a lot of patient education, you know. I want to be a support system for the patients in healthcare, as everyone knows, visits are getting shorter and shorter. Physicians only have so much time sometimes, and so I really love my role of being able to go in and really spend the time with the patient, go over their treatment to make sure they understand it and what it's going to look like from a symptom perspective. And what dose reductions mean, how we will manage some of these things. Really being able to take some extra time out of the day to explain these things to patients is probably definitely my primary role as well.

Lisa Yen 11:21
How enlightening to hear how you're involved, both directly with patients and also behind the scenes with the treatment decision-making.

Amanda Cass 11:29
You know, a lot of like interpretation of lab values and all those things too. But that's the boring stuff. The more fun stuff is the patient care.

Lisa Yen 11:36
And that interpretation of lab values can also be directly with the patients, as they're like, "Amanda, what does this mean?"

Amanda Cass 11:42
Yeah, we actually do that a lot. "Oh, well, this one's in the red. What does that mean?" And I'm like, "Oh, well, if you actually look at the normal range, you're barely out of that." Sometimes, with patients getting in their labs directly to their phones, it can be overwhelming. And you see those red values and “is that really okay? Is it not okay? Why is that?” So, I definitely do that as well.

Lisa Yen 12:01

Well, many people may not have yet had the experience of talking directly to pharmacists and may not know that they have a pharmacist. Or they may not have a pharmacist involved in their clinic. They may not have yet talked to a pharmacist such as yourself, especially neuroendocrine cancer care. So, let's talk a little bit about how that works, and I guess how that works for you in your clinic. What does that look like?

Amanda Cass 12:23
It's really interesting because I was the first pharmacist in my clinic, so I've got to see the transition of not having pharmacists in clinic and having a pharmacist in clinic. And you know, there are sometimes that I go in with the physician or the nurse practitioner and do the visit all together, so we can all have conversations together. I know that a lot of my colleagues, we have connections with different institutions. They know that not only do I do thoracic oncology, you know, our lung cancer, but that I do neuroendocrine. So, if it's maybe a pharmacist that's not as experienced in taking care of patients with neuroendocrine tumor, we'll reach out to each other. And I think that that's been something that I've really loved doing, especially the longer I've been in practice. Really making those connections at other institutions. We know neuroendocrine tumors are a rare patient population, and so not only is it a rare cancer type to have, it's rare to have experts in it. We all know that with physicians. And pharmacists are the same way. And so, I really spend a lot of time trying to connect with others. So going to NANETS or you know, this past year, I went to ENETS in Poland, and that was so fun to connect with those other individuals. That's really the big way that we're involved with neuroendocrine patients is making sure we're trying to share our experiences with patients, with other professionals, so we can make sure that all of our patients across the US, across other countries as well, are getting the best care for their disease state. And so, yeah, it's been really fun since I have been involved in neuroendocrine and I've had reach out. I'm like, "Oh, wait, yeah like, I could absolutely help with that." So, I love doing that as well.

Lisa Yen 13:51
Yeah, a lot of it is in the networking and building community. So, a lot of the behind the scenes work that patients may not see so that we can build a stronger community and better help patients.

Amanda Cass 14:02
Yeah, absolutely. And even sometimes, too, it's networking within neuroendocrine but also, I know we'll talk about that in a little bit. But like, how can the patient get their medication? People have trouble getting their medication. So really connecting multiple different fronts of patient care, with the physicians, with their retail pharmacy, with their inpatient pharmacist, if they're inpatient at the time, trying to be that bridge for different aspects of their care.

Lisa Yen 14:26
You're that bridge. Or the bridge builder.

Amanda Cass 14:28
Yeah, I try to be. Absolutely.

Lisa Yen 14:30

Well, you mentioned that you're there helping patients when they're starting a new treatment. So let's talk a little bit about that. How can a pharmacist help during that process?

Amanda Cass 14:39
My first big thing is I educate patients on what the treatment is, why we're doing this one. Depending on the patient, I'd ask, "Do you want me to go over outcomes with you?" I'll pull up the studies and show them the curves and why we may choose one therapy over another. Some patients don't like that, and so I'll focus more on side effects, but I really try to make it specific to what the patient wants. I also make sure patients have written materials, calendars and different things that they can take utilize to help them through their treatment, where it maybe has some self-care tips to manage some of their side effects that they may be having. And so, when patients are starting treatment, I go through that.

One of the big things I definitely want to mention here because it's probably the biggest thing that I think patients worry about, but that is absolutely okay is I go over that we may have to dose reduce patients' therapy. And I really want to assure patients that it's in their best interest. A lot of these therapies are either taken every day or, you know, the majority of the month. And we want these people to have good quality of life as well as quantity. And I always let them know that it's better to let us know about something and not be a big deal than not let us know about something that'd be a big deal. Because then, if we can manage it, we can kind of keep you on these treatments as long as it's working.

So, I really focused on making sure patients know that. I think sometimes patients get nervous to reach out because they don't want to get taken off their therapy, right? And that's never our goal is take you off of it. If we need, we can tweak it a little bit. And I always say for some medications, when I was in pharmacy school, I learned that you dose specifically based on a patient's weight, or you dose based on organ function. But then a lot of medications are not approved that way. Whatever the **maximum tolerated dose** was, and every patient may not need that. So going over that with patients and making sure that they feel comfortable coming to us and so really hoping that they feel comfortable with their treatment.

Sometimes I get to be the bearer of the bad news, the side effect person coming in here and telling you all the bad things that can happen. But I hope, at the end of the day, I ultimately make patients feel more empowered, because they know what to expect. They know how they can manage it. They know what to do if something happens. So really kind of providing that detail. It's how I try to help patients when they're starting new treatment.

Lisa Yen 16:49
So, what a wide range of way you're helping patients. Going over the why. Practical tools. Of course, the side effects. And dose reductions, which may not even be on people's radars.

Amanda Cass 16:59
Yeah, I think when they start, it's a thing that a lot of people don't talk about. But I know we were together on a meeting, and we talked about this a lot at that meeting. It's something that is important. In these clinical trials, they allow this. And so, I think people are like, "Oh, well, if I don't get as much of the medication, it's not going to work as well." And I think it's actually potentially the opposite. You may not

be getting as much of the medication, and it's working better because it's not giving you all these toxic side effects. And so, to me, that is working better. It's controlling your cancer while also allowing you to live a full life.

Lisa Yen 17:31
Yeah, I know. It's such a balancing act. But it is hard. It's that constant push-pull of the worry about it not working so well, and what's going to happen to my cancer if I have to reduce the dose?

Amanda Cass 17:43
Yeah, and I think too, I've really realized, obviously, pharmacy school, we learn about guidelines and package inserts and what the FDA approved dose reductions are. And I really learned that sometimes to have the best benefit ratio for the patient, we have to kind of veer from that sometimes. I will say that Dr Ramirez and Emily, our nurse practitioner, make fun of me all the time, because that's when I really get into the nitty gritty of pharmacy and see, "How long does this drug last in the body? How is it clear from the body? Can we actually give this to them maybe every other day, if it's a long half-life?" And you know, as long as it's still working on scans, there's no reason that we can't do that. Obviously, talk with your medical team, but it's something that I've really realized can be so helpful is digging into the pharmacology of these drugs, and how do I alter it? That may be something a little bit off the beaten path. That can help a patient.

Lisa Yen 18:32
And this is where your knowledge and experience really helps, really understanding the pharmacokinetics and how it is metabolized and how it works in the body.

Amanda Cass 18:40
Yeah, absolutely. And that's like even goes to some of these medications too, I get a lot of questions about, "I'm getting a tooth pulled, do I need to hold this?" "I'm gonna have surgery, and, you know, it might be a minor surgery or..." So, looking into how do they manage these in combination with their other disease states that are going on. Are there other comorbidities?

Lisa Yen 18:58
Yeah, it's a lot to manage. So, it's really helpful to know that you're in their corner and can help with that.

Amanda Cass
Yeah.

Lisa Yen 19:04
So, let's make this a little bit more concrete, because this sounds really great, but it can be "out there" for a patient. So, let's take an example. One example that is really common, especially now, the new medication, **cabozantinib**, that was just FDA approved this year. So, a lot of patients don't really understand this medication, what it is, what it does. So, let's just take this as an example, since this is a new medication for many people, and it's being suggested for people more and more. So, what kind of

medication is it? If you were meeting with a patient starting cabozantinib, how would you explain all the things you would want to explain to them?

Amanda Cass 19:38
So, the first thing is, I always go over, what is this medication? It's a what we call a **VEGF inhibitor**. But what does that mean, right? And so, it's **blocking the proteins that are essential for cancer cell growth and blood vessel formation**. And so, if we're blocking those, the tumor can't get a blood supply, which then will subsequently cause tumor cell death. And if they don't have those proteins that they need to grow and proliferate and divide, then that could at least stall growth that's coming from both sides. So really explaining how that works and how it's a little bit more **targeted**, that it's blocking that specific protein.

And one of the things I talk too, is I talk about the side effects. What are the side effects that they can look for at home? What should we expect? I'll hit some of the high notes of the side effects for this one. So, you know, one of those is **hand-foot syndrome**, and that is, it's kind of irritation of your palms of your hands and the soles of your feet. How do we prevent that? And some of those are avoiding irritation, so the soles of your feet and the palms of your hand, and that can even include walking on carpet. Maybe wearing socks if you're walking on carpet, because that can potentially cause irritation, especially if you're already having some of those symptoms. Keeping your hand moisturized. Avoiding washing your hands in really hot water. What are those things that they can do at home to kind of prevent that. And then what do we do when it happens? We can use what's called **urea cream**. It's an over the counter. So, we tell patients, you might want to go ahead and get some of that to keep at home. So, if it does start happening, you can just immediately start using that. You, of course, let your health care team know, but you're ready to go. You've got that on hand.

Another one is diarrhea. Go ahead and keep that Imodium at home and have that. Go ahead and take one and let us know. And I think sometimes people, too, I talk a lot about diarrhea. And these medications, and what we found too is like sometimes we figure out patients, if cabozantinib is a once a day medication, we figured out they can take one Imodium tablet with their cabozantinib every day, and it controls that diarrhea, and it just becomes part of their routine. It's not something that they have to do only when they have symptoms. How do we use these in a preventative way?

High blood pressure. Do you have high blood pressure? I always, when I'm starting a patient on cabozantinib, talk with patients if they do have high blood pressure, who's managing that? So, I know, and I can note that. Do you have a blood pressure cuff at home? If you don't have a blood pressure cuff at home, I usually recommend getting one that's electronic so it's a little bit easier to use for patients. If you're having trouble getting one, what resources do we have at the institution that I can help get you one so you can monitor that?

And a lot of the times, encouraging patients that it's okay if side effects happen. My goal is to get you to where they don't happen. I also get sometimes too, you know, "Well, we didn't want to bother you guys. We know you're busy." And it's like, "No, please. We do not want that at all." I try to make patients feel really comfortable. And then I also, too, tell patients, if they're having side effect, if I realize they are, I check in preemptively. I put them on my little check-in list. So, even if I'm not able to check in every

day, I feel like, if I preemptively check in on some of these side effects, they'll feel more comfortable reaching out. And so, for cabozantinib, I think it's really important to kind of stay on top of that. And I just let patients know that "You don't get a break with this. It's every day. So how are we going to make you be able to live the most comfortable life while taking this every day?"

Lisa Yen 22:47
Yeah, that's very helpful, because side effects are very real, and that causes a lot of anxiety. You mentioned managing expectations and being proactive, preemptive with the side effects. So that we can go about doing the things that we want to do and live the best life without being bogged down by all these side effects.

Amanda Cass 23:06
I like to go through too like what's normal to expect. So, for fatigue...fatigue is usually worse within the first two weeks of treatment. I don't like to make any changes if you're just having fatigue within those first two weeks, because sometimes your body can adjust a little bit more to that medication. So, I like to give that time, and so the first two weeks might be a little bit more rough. In terms of nausea, how maybe taking something with food or taking it not with food, can help manage that. Little things like that I think are really important for patients to have because I think it also gives them control right of their own care. And I think that that's really important for patients to have that, to feel like they're part of their treatment and their treatment decisions. And how it's not just what we think, but also what they think and how they can manage that.

Lisa Yen 23:52
Yeah, that's helpful, highlighting not just the side effects, but how long the normal is expected to be, how long they last. Does it get better, or does it get worse with time?

Amanda Cass 24:00
And is it something that we can manage, or is it something that we need to dose reduce? For high blood pressure, we can manage that without dose reduction. Diarrhea, sometimes we can, and sometimes we can't. Fatigue, sometimes that is a dose reduction. But I also go over patients diets a lot with them, and I'm obviously not the nutrition expert, but going over basics with that. Because that's obviously going to improve patients' fatigue is having a healthy diet that's protein heavy, that's going to give them energy. Connecting them with our nutritionists or giving them different resources that they can use. Those are all big things that I think patients really like to have and really like to be able to control and figure out what they need.

Lisa Yen 24:40
Yeah. What about talking about what time of the day to take the medications, any drug or food interactions, and then also any just lab or other types of monitoring?

Amanda Cass 24:50
So, in terms of time of the day, I tell patients that you want to take it around the same time each day for cabozantinib, but that time can be any time. So, what is the time that it's going to be best for you to

remember this? Is it going to be as you go to bed? Is it going to be when you wake up in the morning? In the morning? Is it with food, is it without food; can we do that?

And for drug interactions, I always do a thorough review of what patients are on before they start. But I also, if there are certain medications, you know, I try to go over cold and flu medicine. The majority of cold and flu medicine is okay, but maybe Sudafed with this also causes high blood pressure. So, before you do that, that might be something you want to reach out about. That's something that patients, they'll message in about, and they haven't taken anything, and sometimes it can take us five or six hours to get back to a message. And I don't want them to be miserable, or if they don't message us until later in the evening, and then they have to go overnight. I want to make sure they have some of those drug interactions for common over-the-counter ailments.

And then in terms of monitoring and lab values, I do go over that at the beginning. That's something I tell them at the beginning; we'll be monitoring more frequently. And then, depending on how you're tolerating it, that interval gets extended, and so it might be every two weeks at first, is usually the standard, depending on the physician, they may have different monitoring preferences. But then, typically it's two weeks, and then you push it out to a month. And then sometimes certain positions will be okay pushing it out two or three months, depending on how long the patient has been on this they maybe do monthly, for six months, and if everything's looked good for six months, maybe we'll push it out to two months and go over that with the patient in terms of monitoring.

Lisa Yen 26:27
In terms of monitoring, what labs are you monitoring for?

Amanda Cass 26:31
So, the big ones with Cabozantinib are going to be liver function, because this is processed through our liver, and so how is it impacting the liver? And then also, patients with neuroendocrine tumors can have disease in the liver. And so, are your liver numbers already altered. And what does that mean in terms of taking cabozantinib? And do we need to adjust for that? If it happens, what do we do? So, I would say for cabozantinib, the biggest thing is our liver numbers. So, our liver enzymes are really going to be what we're looking at for that. Of course, the other things that we're going to look for because to look for because it can cause diarrhea. Are you having a little bit of diarrhea? But you don't think it's necessarily cumbersome, but it's more like a loose stool moment. But is it causing you to be a little bit dehydrated? Do I see your renal function getting a little worse because you're not as hydrated? So those are the little things that we're kind of looking at to tweak things for patient to patient.

Lisa Yen 27:22
And are there certain labs that you check before even starting cabozantinib to check on certain functions or to have a baseline level?

Amanda Cass 27:28
Yeah, it's absolutely going to be complete metabolic panel. So that is going to be our liver enzymes, our renal function, things like that. And then also our complete blood count. Cabozantinib can impact blood counts. It's not as common, but we want to make sure they're at a good level before they start. And so if

we do see a decrease, how much of a decrease is that from their baseline? Is it something that we need to change? Things like that.

Lisa Yen 27:51
I know that when my husband and I have these conversations with pharmacists, we ask them things like, "Do I need to take it on an empty stomach or with food?" So how would you answer it with this medication?

Amanda Cass 28:03
So, with this medication in particular, you want to take it without food. And some patients prefer to take their medications with food because they feel like it causes less nausea for them. And so, since patients can't take this with food, how do we manage that? And how does that play into your day and when you're going to take your medication? And so, I think that that's definitely something we cover with patients. I always try to make sure it is on the label as well. If you can't take it with food, when do you take your other medications? How do you take your other medications? Do we need to separate it? Things like that.

Lisa Yen 28:34
And then it gets a little tricky, because there's timing involved, of like, okay, it has be two hours after a meal and then making sure that you're spacing it apart from other medications.

Amanda Cass 28:45
So, depending on what resource you look it'll say, you know, two hours before, two hours after. Sometimes it'll say two hours before, one hour after. But I tell patients, it's more important that you're taking your medication every day, and so if you forgot and you ate a snack, go ahead and take it. What it's going to do is it will impact the absorption a little bit. But if that happens every now and then, this is our *ideal* way to take it, and if we can get that the majority of the time, that's the most important. But if that doesn't happen, or you're somewhere where maybe you know, you have to eat breakfast, you have to get out of the house, you take your medicine and you need to eat breakfast at least within the next hour because you have to get out of the house and do something. But that's okay. I don't want them to panic. So, what I always tell them is, you know, we want to get close to this as possible, and that's also what I think in terms of timing as well. You know, it's once a day, but we want to keep it around the same time. But if you're sleeping in one morning, and you usually take it at 8am, I'd rather you get that sleep and then take it when you get up. So, I think it's important for patients to know what the ideal is, and then what happens if they can't meet that ideal every now and then.

Lisa Yen 29:51
Yeah, actually going down that line, what if they forget a dose or they have a scan? People have scans all the time. They have a scan and they have to fast, so they're not taking that medication at that time. What do they do in terms of when they take it next?

Amanda Cass 30:05
So, what I tell patients, if it's within a few hours of the time that you take your dose, six hours or so, you can go ahead and take that. If not, especially with cabozantinib, it lasts in our body a very, very, very

long time. So, it's okay if you skip a dose, it's not going to impact how well it's working. And so, you just skip it till the next day, right? And then get back on track that next day. In terms of scans, the same thing. If you need to skip it for one day because you're fasting, that that's okay to do as well. Or if your scans in the morning, and you usually take it in the morning, you can kind of take it after that scan. So, figuring out how to alter it based on your usual. But also, you know, sometimes we do forget a dose, and that's totally okay. What happens if I do forget a dose? I think some patients like to be able to take that again, so just kind of giving them those instructions on when it's safe to do that.

Lisa Yen 30:55
Yeah. And also, if they're having a procedure, whether it's a dental procedure or something a little bit more invasive, do they need to hold it?

Amanda Cass 31:03
So, this medication, we talked about how it impacts blood vessel formation. And so, some of the things we want to hold it around surgeries, particularly more invasive surgeries. But that's something to always breathe out here oncologist and ask about, and how long do we hold it before and after? And then, in terms of dental procedures, a lot of those are lower risk for bleeding, so we don't necessarily need to hold. It was something that I felt like, I get a lot of questions about that, and even in terms of their cancer therapies or blood thinners. And so, I actually contacted a dentist to talk to them about like, what the usual, like, bleeding risk is. And they have guidelines, but what are the dentist actually seeing in practice? And so, a lot of times you don't necessarily need to hold for, you know, simple teeth removal or things like that. But that's one thing I definitely talk is if you're going to have to have any procedure definitely let us know, because when it can impact those blood vessels, it can impact how our body is feeling. Because if you don't have blood flow to certain areas, it increases the time it takes our body to heal. And so obviously staying on the medication is important, but also, it's important for you to heal and being able to continue it later.

Lisa Yen 32:11
It's a balancing act.

Amanda Cass
Absolutely.

Lisa Yen 32:12
And along those lines of blood vessels and maybe risk of bleeding, some people who've had other treatments may have low platelets, and hear that, okay, it's on the label that there might be issues with bleeding or platelets. Is it safe to take this medication if you have low platelets?

Amanda Cass 32:29
It depends on to what degree your platelets are. A lot of times, what I see in patients is they have lower platelets, but they're not necessarily concerning. So, what we look at is for a number of 50,000 or 50, depending on how your hospital reports, that is really going to be, for me, that biggest threshold on if something is safe to take or not to take. I get a lot of questions in terms of, “This could potentially cause bleeding, but also, I'm on blood thinners, how does that get it interact?” They work in different ways, so

they aren't really impacting platelets in the same way, or they're not impacting causing bleeding in the same way. So, the most important thing is just to keep an eye out of bleeding that doesn't stop. So, what you might see is that your gums bleed a little bit more when you brush your teeth, but as long as that stops after you're done brushing your teeth, that's not anything we're really concerned about. If you have a nosebleed, it might take a little bit longer to stop, but as long as that's stopping, then that's really what we're concerned about. So those are the practical things that they can look out for, for risk of bleeding at home, or how they can tell without getting that. Is their blood in their urine? If they have a bruise? Is it continuing to get bigger versus just being the size that it started…are all big things, I think. Yeah, the nosebleeds are something that I hear a lot, and the brushing of the teeth with the bleeding. But typically, keeping pressure on your nose. If you get a cut, keeping pressure on it, those are ways that you can help with that risk.

Lisa Yen 33:53
Lots of practical tips. This is really helpful. And as we close out our discussion on cabozantinib, you mentioned it's a **VEGF inhibitor**. People might have heard doctors talk about **targeted therapy, TKI**. Also, there's a question this often floats around patient communities. Is this a chemotherapy? So, what are all these terms? And can you just kind of put it in context for us?

Amanda Cass 34:15
So, I think a lot of times, all cancer therapies kind of get grouped under the phrase of chemotherapy. So patients may hear that, but if we're getting a little bit more technical, cabozantinib is not what we consider a traditional chemotherapy. So **traditional chemotherapy, how it's going to work is it's going to target rapidly dividing cells in the body and cause DNA damage in those cells so then that they die**. And again, that's all rapidly dividing cells in the body. So that can be your hair cells, cells in your GI tract, things like that. So, it's less specific versus cabozantinib, which really targets that VEGF protein. Cabozantinib actually does target some other protein. That being said, it is still more specific than a traditional chemotherapy. So, I like to group our therapies into our **targeted therapies like Cabozantinib**, our **chemotherapies like Capecitabine and Temozolomide**, our **immunotherapies which can be like Pembrolizumab or Keytruda**, and then our **radionuclide therapies like Lutathera**. So, for neuroendocrine they kind of have four big groups of treatment that you could potentially can see used for those patients.

Lisa Yen 35:23
Yeah, thank you for helping put that in context and really differentiating, this is not traditional chemotherapy. It's a different class, and it's helpful to have this kind of discussion. I mean, I know that my husband and I have gone through this type of discussion. To hear the practical tips were hugely helpful. So, it kind of helps us manage expectations and be preemptive in managing the side effects. So, thank you for that.

So, if we could take another example, you mentioned chemotherapy: **capecitabine, temozolomide**. Let's dive in a similar discussion with that. And how would you help a patient understand that medication as well?

Amanda Cass 35:54

So, I start off with the same thing: going over side effects, what to expect. With capecitabine and temozolomide in particular, there is a very complicated dosing in terms of when you take it. I provide patients with kind of a blank calendar. It's not date-specific. It's where they can fill in the dates. And so, they can do that every time. Even if they have a delay in their treatment, they can fill it in with whenever they're going to start. And then it kind of lays out when to take the capecitabine, when to take the temozolomide. Do I take nausea medicine before it, and things like that. What time of day should I take it? Is it two times a day? Is it one time a day? And then how does that look in relation to the rest of the month?

And so, I lay that out for them, in addition to kinda going over those side effects again and what to look out for. You know, with our traditional chemotherapies, we can see some more nausea. There's a very, very rare side effect with capecitabine that can cause **vasospasm** of the vessel around your heart, and what we do if that happens. With temozolomide, we want to take our nausea medicine 30 minutes before. And kind of going over better to take that at bedtime, because it seems to avoid some of the nausea that way.

What this means for our blood count? Does this put you at risk for infection or not? This therapy does have that potential. However, I don't typically see blood counts getting to a dangerous level. So, what that means for their day to day. And so those are the big things that go with capecitabine, and then again, monitoring.

So, when are we going to get labs for this? With our targeted therapies, we get labs every two weeks and we don't have to do that with capecitabine. What we want to do is, in particular, looking at those blood counts is we want to get blood counts before they start their next cycle of treatment.

What is a **cycle** of treatment? What does that mean to go over even those basics. Your cycle is 28 days because they'll get their prescription bottle and it says take days one through 14. Or days 10 through 14. So, what that means.

Managing side effects, if they're having nausea, if they're having hand foot syndrome. If they're having nausea, what do we do. And so similar things to what I'm going over with, cabaozantinib, but how to take it food. This one can be complicated. So capecitabine can be taken with or without food, but temozolomide has to be taken on an empty stomach. Think how you manage that. Some patients really like to take their medications with food because they feel like it decreases nausea. And so, I say, "Okay, well, then let's do our capecitabine at breakfast at 7am and dinner time at 6pm. That's not quite exactly 12 hours apart, but that will work with eating our meal. And then you can take your temozolomide at bedtime, a few hours after you've had dinner." And so, helping them set up how they're going to fit this in their day to day, and how it's going to not impact what they're doing day to day, not impact their other medication, and how we can kind of tweaking that. Taking it 7am and 6pm like, that's okay, let's figure out how we can tweak it slightly to fit your normal routine.

Lisa Yen 38:59

So much of this is the practical aspect. How does it fit my day? What timing of the day, the cycle, and then also symptoms and tracking that. So, beyond these individual drugs, what practical tips do you share for keeping the medications organized?

Amanda Cass 39:16
So, I will give patients calendars and things like that that are paper. But some people get that and they lose it. So, there are tons and tons of different medication reminders. Some that are integrated into your calendar on your phone, some that just give you a push notification when it's time to remember, and some of them link to information about the medication as well. And so, some of the ones that I recommend are Medisafe or Dosecast, and then the other one is called EveryDose. But if you just search medication reminder in your app store or whatever phone, then tons will come up. There's one that I cannot remember the name of it, but you get to pick an animal, and the animal every day is what notifies you to take your medication and when to take it. So really utilizing technology, I think, is important.

Same goes for symptom journals. Use your notes app on your phone to keep track of that if you're going to lose paper. If you're more of a paper person, just get a small little notebook. And maybe it is, you prefer notebook, but you don't have your notebook when you're out and about, then that's something that you can put in your Notes App in your phone and then translate it to your notebook when you get home.

So really, it's what's going to work, similar to taking medications in general. Which apps, which processes, which way to stay organized is going to work in your normal routine, or what's easier for your brain to remember. You know, we can all remember being back in school at some point, and we know that everyone's brains work different. You study different. You remember things differently. And if you're having trouble sometimes, we'll color code stuff if patients are really having a hard time. I'll get little stickers that are colored and put them on bottles, and I'll make a medication list that then has those colors. Just really being open about it. These are complex regimens. I can say, as a pharmacist, I forget to take some of my medicine sometimes. And I understand that, if you have cancer and you have all these additional medications, how hard it can be to remember. So, I really love to kind of help patients figure out what's going to work for them and what the best way to do that is.

Lisa Yen 41:20
And people starting any of these medications, maybe they haven't taken anything before, so they're having to find a new process to help support this.

Amanda Cass 41:29
Yeah, absolutely. Especially for some of these chemotherapies or targeted therapies, if you've not taken medications before, taking a daily medication can be hard. But to the same degree, taking a medication on a random schedule, days one through 14 every 28 days. Let's say you were on capecitabine and temozolomide, so you were used to taking it only two weeks out of the month, and you had a system that worked for that. And that might not work for a daily medication if you're switching to cabozantinib. You may like a paper calendar on your fridge for CAPTEM but you may like an app reminder for cabozantinib. So being willing to be flexible and being willing to try different things, I think,

is important. When patients are willing to try different things, I'm up to coming up with multiple different solutions that we can try.

Lisa Yen 42:14
Yeah, and it's helpful to know that there are all these support solutions out there, like apps, of course, all the paper calendars and other tools as well.

Amanda Cass 42:24
Yeah, and I think too, this is something that maybe isn't sometimes, depending on where you're being seen at is not a resource that's preemptively given to you. But if you go to your provider and you're like, "Hey, I would really love like a treatment calendar. Is that something that you guys can do?" I guarantee you, any place you're getting treatment is going to be able to make a treatment calendar for you. So, if it's something that you feel like you're interested in or you feel like would be helpful, asking for those resources, whether it's paper, apps, or figuring out what resources your institution has to offer.

Lisa Yen 42:56
And along those lines, of course, tracking and managing side effects can also feel overwhelming. So, what practical advice do you give for patients to help make this a little bit easier as well?

Amanda Cass 43:06
Similar to taking their medication is utilizing, not necessarily an app for this, but keeping a list, whether that's electronically or physically. And it's important to when they're reporting these side effects, what time did you take your medication and what time is this side effect occurring? And it's important to let us know as well. Did you take any medication to help with that? And did it help? Did it help kind of but you're still a little nauseous if it's nausea. So, do we just need to try a different nausea medicine? So, giving us specifics, I think, is important. When this happened in relation to when you took your medication? Was there any other new medications that you were taking during this time period? So not only what your side effect is, but specific surrounding when it's occurring and if anything helped with that side effect?

Lisa Yen 43:55
Yeah, tracking the details matter so that the pharmacists or their doctors, their team can help address and support this.

Amanda Cass 44:02
Yeah, you know, sometimes it can be as simple as patients are having nausea from this, and they do take Zofran, but it didn't really help. They come in and they're like, "Oh, yeah, I'm getting nausea with this." And then I say, "Okay, well, let's schedule Zofran 30 minutes before," not knowing that you'd tried Zofran before or even after, and it just didn't seem to work. So, let's go ahead and try different medicine. We don't have to start with that at the beginning, since we know maybe it doesn't work best for you. So yeah, the specifics are super important to help us come up with the best solution.

Lisa Yen 44:29

Well, another practical and very real concern is cost. So, if someone has questions about affordability or financial assistance, who should they reach out to and what can help?

Amanda Cass 44:39
So, this is definitely dependent on what institution you're at, but I'll give some examples of different resources that are available for this. At Vanderbilt, we have an in-house specialty pharmacy, and a lot of the bigger cancer centers these days have an integrated **specialty pharmacy**, and those pharmacies are equipped to help navigate the financial system a lot easier, a lot better. They are the experts on the resources available to these patients. Let's say your medication's covered, but your copay is high. What are the resources that are available to help bring that down? A lot of different institutions have **financial counselors**, and they can help you sit down and look at your insurance plan, right? Is this something that I maybe need to consider changing? I think a lot of times, people don't realize that their prescription insurance is actually separate from their medical insurance. And so, what does that mean? How do I look up what my prescription insurance covers? And so, meeting with a financial counselor. Or even if your insurance is through your job, meeting with HR to go through those more.

I will also say the drug companies are wonderful. That is something in oncology that I don't think I've ever really had to stress about too much in terms of, if a patient's insurance is not covering it, the drug companies have patient assistance programs so they can get those therapies, and especially newer therapies. We were having trouble when cabozantinib was first approved, getting approval with some insurances. We don't want to delay treatment, right? So, these drug companies can give quick start, where they provide you with a month of therapy until we can get your insurance figured out. And then the drug companies themselves also have individuals who specialize in helping you navigate the insurance process. They talk to different insurance companies. Say certain insurance companies not covering it, they go to that insurance company, they're like, "Hey, look, this is in the NCCN guideline." So, who to talk to? There's lots of individuals, but I think the most important is just letting us know one, and we will get you to the right person. And knowing that there's different people, including people at your institution, but as well as manufacturers and your HR, can really help navigate the insurance process.

Lisa Yen 46:46
Attacking this on various fronts to help try to find the solution for the patients.

Amanda Cass 46:51
Yeah, sometimes I've seen before too, if an insurance was giving us pushback to covering a therapy, the patient going to their HR and stating that. And their HR, they have contract with insurance company. And then they contact the insurance company, and then all of a sudden, it's approved because you have your HR or place of employment advocating on your behalf as well. So, figuring out who can advocate for you. And I think, at minimum, googling the medication, finding that manufacturer website, and there's always a resources section or a coverage or resources or support section that will have this information in there.

Lisa Yen 47:27

Yeah, it's amazing how much the pharmaceuticals often want to help both with the financial assistance –many of them have financial assistance programs–and I know, like in the example of cabozantinib, they have a patient care kit with all of those things that you were mentioned, something for nausea, diarrhea and the hand-foot issues, all in that care kit.

Amanda Cass 47:46
The patient care kits, I think, are wonderful to provide the patients, so they have those resources at home up front, and they don't have to go shop around for a long time to get all the things that they need.

Lisa Yen 47:57
So, for patients who want more support, I mean, it's been wonderful talking to you. It's amazing how much you do for your patients. How can patients find a pharmacist to talk to? And is it important to find one that has experience with neuroendocrine cancer?

Amanda Cass 48:11
I think that a lot of the times, finding someone with experience is going to be great, and they're going to be able to maybe provide advice, maybe a little bit quicker. But I would say every pharmacist that makes it through the US education system and passes their board are equipped with the skills that help navigate some of these things, whether it's managing side effects drug interaction. That's something that I tell patients, you can ask your Walgreens pharmacists if this is going to interact with your CAPTEM or your cabozantinib. They have the resources available to figure that out as well. And so, I think at baseline, pharmacists have always been the most accessible healthcare provider because you can walk into any pharmacy. And even pharmacists that are at retail pharmacies as well can help you manage side effects from an over-the-counter perspective. Is it something that there's an over-the-counter medication for?

However, it's also great to know that these resources exist with oncology specialty pharmacists. Some of those maybe don't specialize in neuroendocrine tumors, but they specialize in oncology. And depending on the institution–we're lucky at Vanderbilt that we have in our specific clinic, so we can preemptively see the patients. Sometimes they may only have one or two oncology pharmacists that are covering all of the clinic, and so it may be something that you don't talk with them unless you ask or you're having trouble with your medication. So, they have them there, but they're more of a reactive solution.

So, ask if there is an oncology pharmacist available to you. I think that that's important too. And I think too a lot of different cancer centers are great at having more specialized pharmacists. And so, advocating for that as well, letting people know that that's something that would be helpful to you. Letting healthcare institutions, letting drug companies, other things, that pharmacists are helpful in this process. Everyone loves hearing from a patient and how helpful it can be. So, if you don't have that available—definitely pharmacists—talking to the institution about how you've heard how helpful this can be. Or is it something that they've considered before? Maybe that's the extra step they need to kind of move forward with hiring or something.

Lisa Yen 50:17
So yeah, really asking for and advocating for that person as a part of our team to help us better live our lives, really. Because this is challenging, and the pharmacists can really help with the practical aspects of medication management.

Amanda Cass 50:31
Absolutely.

Lisa Yen 50:32
I know for us, it was through our specialty pharmacy, they preemptively reached out and said, "Do you want to talk to pharmacists about that?" And we were able to schedule a call. So various opportunities, whether it's at a retail pharmacy, specialty pharmacy and that can be on the phone, your institution. What about in community centers? Do community hospitals and institutions, would they have a pharmacist that can also help?

Amanda Cass 50:54
At minimum, they're going to have a pharmacist that's helping verify all the orders, making sure those orders are accurate, and whether that's IV cancer treatments or oral treatment. Community centers, what you will typically see is where there's just one or two oncology pharmacists, and that's where you might, may see you don't necessarily see them proactively, and it's something you need to ask for. But if you're any institution that is providing cancer care and you're able to get infusions there is going to have a pharmacist that is familiar with cancer treatments and able to help navigate that. It may be someone who is helping verify orders, looking at the technicians, making the different chemotherapy. And so maybe they don't have as much time for direct patient care, but they're always there. There always will be someone that you could access that way. You may just have to ask for it.

Lisa Yen 51:43
Okay, so I'm hearing the keywords is really a **pharmacy that specializes in cancer** or **oncology pharmacy**.

Amanda Cass 51:50
I feel like too. It's been really cool for me to see, I've been out of school longer than I'd like to admit right now, but even just seeing in the past nine years how more and more cancer centers are getting **oncology-trained pharmacists**, and specialty pharmacies are even hiring oncology specifically trained pharmacists. And so, seeing it's the fastest growing specialty in pharmacy, and that's because of all these new medication approvals. I think that we're seeing a good increase in this, and we're seeing pharmacists are interested in this. So, we're seeing more and more of this happen. And I think that everyone goes into pharmacy maybe not realizing this. But even if we went into pharmacy thinking we might do retail pharmacy, that's because we love the face-to-face patient care. And so, the fact that pharmacists are getting to be able to pursue further training and becoming more subspecialized to help patients. We love to talk to patients. I think that that's something that I always tell people. Sometimes, I'll be on the phone with patient. I'm like, "Okay, I gotta be off the phone. I gotta work" because I've been on the phone for too long. Our jobs really allow us to focus on how to specialize treatment for the

patient. We have a little bit more flexibility and time. I hope that you can have a pharmacist involved in your care as you're going through treatment.

Lisa Yen 53:02
I mean, we love that you love to talk to patients. There's clearly a need, and it clearly helps patients that help my husband and I, I know it has helped other people in the community, and it has the potential to help many more. So, we thank you for that. We thank you for your work in empowering patients. You said that that's what you're doing, right? You're empowering patients, and you're doing that by shedding light on the important role that pharmacists play in cancer care, explaining medications, managing side effects, and all of the ways that you help, even answering financial questions as well. Thank you for being here to support the neuroendocrine patients in all the ways you do every step of the way. We really appreciate you.

Amanda Cass 53:43
Well, thank you so much for having me. This has been so fun to chat about, and I really, really appreciate it.

Lisa Yen 53:48
Well, we hope that there are more and more people like you, and we're so grateful for our you do.

Amanda Cass 53:53
Thanks so much.
Lisa Yen 53:54
And for our listeners. If you'd like to learn more about managing your treatment, find reliable resources, visit NCF.net, and remember you don't have to do this alone. Your care team, including your pharmacist, are there to help you. So, we thank you for joining us today.

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