Introduction and medication overview

Welcome back to our reversing mast cell activation and histamine intolerance Summit. And I'm your host, Dr. Meg Mill. And I'm joined by my esteemed colleague, Dr. Lindsey Elmore.

Thank you so much for being with us today, Dr. Elmore Oh, absolutely. So happy to be here. Well, it's great to have you and what I love about you. I've been following you for years. And what I love is that you give us the lowdown on medication in a no nonsense way.

But you also, backed by clinical research. So you give such a fresh perspective on the value and the cons of medication. So I'm really excited to dive into talking about really both the good, the bad, the good, the bad and ugly of treatment, how we can use it, but also some of the effects that we can see when we're using it, maybe in the wrong ways too soon, too often, and all things like that.

So we're excited for this conversation before. Well, well, I guess let's just start with kind of talking about some medications that are specifically notorious for exacerbating mast cells.

Well, we know that there are a few that can make mast cell activation worse. We know the opiate medications, all of our pain killing medications can cause it.

We have our over-the-counter nsaids as well as the prescription nsaids So these are the ibuprofen of the world. The keto relax of the world can cause problems with our mast cells as well.

We also know that certain antibiotics for sure intravenous vancomycin, which is the most common medication used to treat, to treat methicillin resistant methicillin resistant Staphylococcus is very, very commonly used.

It's almost empiric therapy when people come into the hospital and they're very, very sick with sepsis, almost everyone will get vancomycin just as a like, hey, we got to be sure we cover this bug until we know that we don't need to cover this bug as well.

We also know local anesthetics, which are also sometimes available over the counter as well, can cause muscle activation as well as dyes that are used in any type of imagery that is done as far as like a CT scan or or anything like that.

So those can for sure cause problems as well as the medications that contain alcohol. So some of the liquid medications that contain alcohol just as a carrying agent.

NSAIDs and mast cell reactions

And importantly, there are a lot of tinctures out there that might be given to you by a Chinese medicine doctor or homeopathist that might also contain alcohol.

And so we have to be cautious of that as well as I mean, you wouldn't even think about it, but alcohol is sometimes, in, in things like mouthwash. And so we have to be very careful to look and make sure that the medications that we're using don't contain alcohol.

We also know that some other commonly available, the commonly available things in the pharmacy, such as such as essential oils, perfumes, scents, chemical cleaners can also trigger mast cell activation.

And so we have to be cautious not only with medications but other things that are commonly available inside of the pharmacy as well. Those are all great points and I think that there's a key.

So like specific medications, but also all those things you're saying with the alcohol, the actually the additives, the dye that because you could be racking your brain and searching for what is this, what is this? I can't find that common thread.

And sometimes it's those little things. It's that additive that alcohol, that dye, those things that are in there, binders, fillers that you're not even suspecting can be triggering you because you're you're really not sure what's in the products.

Well, yes. And it's unfortunate, but oftentimes excipients, which are the stuff that you put in medications to kind of fill out your capsule, oftentimes excipients aren't labeled.

And so you don't even know. Maybe you know, that you have a sensitivity to gluten and that it makes your, it makes your mast cell activation worse. Well, you may be taking a medication that contains gluten that's not disclosed on the label.

You also might be taking a medication with artificial artificial dyes in it that are not disclosed on the label. And so we have to be very careful to look at what excipients are in the medications, and not just the medications themselves.

You know this is a little bit we're kind of going down, I'm going to go down this rabbit hole a little bit. But for someone who is saying, okay, you know what, I do have to take medications.

I don't know if there's things I never even consider this. Where would they start to find out? Would you start by asking your local pharmacies how how do you start investigating something like that?

You can ask your local pharmacist, prescribing information is readily available on on the internet. they are difficult to read if it is not disclosed anywhere on the label, you may have to call the manufacturer.

I also would use caution and disclose to your pharmacist like, hey, I have this disorder and I need to ensure that I'm not going from generic version of this drug a to generic version of this drug B because you may have different excipients, different dyes, different colorings, different additives in different different manufacturers version, even though it is the exact same medication.

And then I think the most important part of this entire thing is do you know how to self-monitor if your symptoms are getting better or worse? If you go in and you start taking a medication and you go, I simply do not feel good on this medication, take a moment to say, okay, I need to trust that and disclose that.

And then maybe you dig down the rabbit hole of like, you know, did that, did the formulation change, did the manufacturer change, did the manufacturer change their formulation without changing the label?

We have to ask all of these different questions. And it is also possible to go to your pharmacist and say, you know which manufacturers version of this drug are you carrying?

Because I know I can tolerate Abbott's formulation, but not Eli Lilly's or I know I can take Glaxo's, but I can't take novos. And so if you know those things at baseline, you can be an advocate for yourself along the way, because we want to ensure that you have enough information to truly know, am I feeling good on this medication?

Is it making me feel worse? And how do we convey that information to our prescribers and our pharmacists to ensure that we have as much consistency as possible with our medication usage?

And sometimes you just need to be your own advocate, you know, coming from that world, it's like people will say well no. And you can get told no, it's the same. No it's the same.

No it's the same. So you have to be your own advocate and, and really be able to express that. And in really get what you need and deserve. Well. And I also think unfortunately, even among pharmacists, the, the, the gaslighting that goes into the I can't tolerate the generic, I can't tolerate this, I can't tolerate that, you know, use it as an

opportunity to educate the pharmacist.

Because unfortunately, what we are taught in pharmacy school is that all generic drugs are basically equivalent and that the brand name drug is is exactly equivalent.

Yes, it is. From a pharmacokinetic and a pharmacodynamic point of view. That does not mean that the entire compounded finished product is the same for each manufacturer.

And so this is an opportunity for us as pharmacists to become more empathetic towards our patients, as well as an opportunity for our patients to become more empowered and say like, no, I really dug into this and this, this brand or this generic puts gluten containing ingredients, or it has lactose as a filler, or it has an artificial dye that I'm very sensitive to because we are simply not taught this in pharmacy school.

And so I, I'm not advocating that patients ever forgive a healthcare practitioner for for gaslighting them and telling them that it's not a real thing.

But if you ever encounter it, you have an opportunity to either get defensive or to become more educational and help that pharmacist understand. No, here actually are the differences that I have discovered in these in these different preparations.

Yeah, that's a good point. And I actually even to bring it into supplements, I will see sometimes when I have people, people I'm working with and really we're trying to get the most pure supplements with the best manufacturing product processes and everything.

But there can be people who can't take a supplement, you know, one form of it versus another form of it, and you just have to really play around or even start at very low doses or change out brands and manufacturers even there to.

Absolutely. Because, you know, to get the right formulation. So one of the drugs that you mentioned in it's over-the-counter are NSAIDs and they're pain relievers.

And you know, I this is I have a problem sometimes with how often these drugs are used. We are just really handing out. And like I actually my son plays football and they were being told to just take the take Advil before the games just in case you started feeling pain.

and so we're thinking, okay, they're just over-the-counter so we can use them. They're safe and that's really a category of medications, I think that's overused and can cause a lot of issues.

So instead stands for nonsteroidal anti-inflammatory drugs. And they've been widely prescribed for all kinds of inflammatory conditions as well as hypersensitivity reactions.

But we also know that there is hypersensitivity that can come from the incense themselves. So they can have local reactions like skin or airways, as well as systemic reactions all the way to the most dangerous side effect of of of allergies, which is anaphylaxis.

And so what happens is when you have these instead hypersensitivity, you have this cross-reactivity, that is mediated by an inflammatory enzyme called cyclooxygenase.

And then you also have specific activation of your IGI antibodies as well as T cells. And so we start to see this really pronounced inflammatory reaction hypersensitivity reaction that can happen in certain people.

We know that genetics are very much involved. There are some polymorphism within certain genes that can cause you to be more likely to have this hypersensitivity reaction.

But we also know that just our environment can also have these problems.

Antihistamines, steroids, and leukotriene inhibitors

And so we also know that when you have an insect hypersensitivity reaction, it also conveys a higher risk if you are using aspirin as well, which is not exactly an insect, but it's similar but different.

Right. And so we use these drugs just so much. The the NHS has you know, people have people have been using these drugs in upwards of 35% of patients who have just chronic conditions.

And we know that the hypersensitivity can also contribute to upwards of ten, 15% of the anaphylaxis. And so it's important that we educate people that to your point, just because it's over-the-counter doesn't mean that it's safe and effective for every single person.

We know that these hypersensitivity reactions can exacerbate airway disease. We know that it can cause all the the the urticaria and the and the cutaneous disease, as well as causing, angioedema, which can be very dangerous in some people.

And this is just like one of the side effects of this, of this sensitivity reaction. We also know that instead drugs are very hard on the kidneys as well as very hard on the lining of the stomach.

So one of the most common problems that I see within Zs is that people get on chronic and said it erodes the lining of their stomach and then they end up saying, oh my gosh, doc, I've got heartburn, I've got Gerd, I've got whatever.

Now they're prescribed a proton pump inhibitors or they just go to their local pharmacy and pick one up because it's labeled for the treatment of heartburn.

And so now you've got a drug that is causing a problem that you're using another problem you're using another drug to treat that problem. And so what we need to do is minimize the use of our instead medications because they're not benign.

And they can cause major problems long term if we are not aware of the side effects. And so we also see instead medications used in combination with other medications.

And it's called the deadly kidney triad. And so if you're on the combination of medications of a diuretic, especially a loop diuretic like furosemide, Lasix or as well as an ace inhibiting medication like a lisinopril.

And and instead you are very much putting your kidneys at risk for harm in the long term. So the the clinical manifestations of the onset hypersensitivity are one problem.

We also have many other problems because NSAIDs they just they block this this Cox pathway which results from which causes all kinds of problems in our mediated our acute sensitivities, as well as the delayed sensitivities that can manifest weeks to months after you start using the drug on a regular basis.

And so this is another thing that you could be just spinning your wheels, going, what on earth is going on? Why are my symptoms getting worse? And it could be because you have started on an insect and you didn't have an acute reaction, but perhaps there was an oxidative stress that came into play that activated the the clinical manifestation.

Maybe something happened to where your platelets are more active. And then they used to be. That is another type of cross-reactivity that can happen. Or more commonly what you will see is the T cell mediated delayed hypersensitivity, which can come about 24 hours or more after the drug administration can be really hard to piece all of that together if you don't know what you're looking for.

Those are all great points, and I think it's just really looking at something that is so common. And really we all feel like, okay, no big. We've been told, I don't know, the we've just been told like so many other things like, oh, these aren't that big of a deal.

But they as you're explaining, there's a lot of side effects. There was a lot of cause, you know, we start to get the I like how you pointed out, you know, you can get on the proton pump inhibitor because you're already having problems and then you're having low stomach acid and then you're not absorbing your nutrients.

And it could go on and on and on and snowball too. so those are that's all such great information. So now let's take a little turn and dive into some common recommendations that we use to treat, mix.

And in, histamine intolerance okay. So I mean the first the first is to take a look at what you're eating and how you're exercising and how you're sleeping and how you take care of yourself on a regular basis.

Have we cleaned out our indoor air to make sure that we don't have things in our home that could be causing us problems? So aside from kind of the lifestyle interventions, we have our antihistamine, medications.

And so, you know, histamine is is the molecule that is most commonly involved in allergic reactions. And it works through a variety of receptors. our H1 to H4 receptors and antihistamines in general block the H1 receptor actions that are chiefly responsible for nasal congestion, tearing up of the eyes, raised skin rashes, dizziness, nausea, call and antihistamines are some of the most commonly used drugs all around the world.

Available in many forms. You can get them in liquids. You can get them in capsules. they are used to treat everything from allergies is the most common reason to common cold, to nausea, to motion sickness, vertigo.

they're used as sedatives. and we see it a lot in elderly patients, which is very concerning because, things like diphenhydramine or Benadryl is used very commonly in elderly patients to help induce sleep.

And yet we know that it is on the beer's list of medications known to be more dangerous in people who are older. These medications also get used as anti-anxiety meds because they are so sedating.

there are two generations of our antihistamines. The first ones are much more sedating than the second generations, which are considered non sedating.

But, you know, they can sedate some people. I, I tend to believe people when they tell me that they're having side effects of medications. The difference between the two and the reason that the first generations are so much more sedating is because they are so much, much more readily available to cross the blood brain barrier.

And the issue with sedating antihistamines is they can cause problems like they're just very drying to the body. And so they can cause things like constipation and dry mouth.

They can cause urinary retention. They can worsen, glaucoma because of their, their, their action on on these, these wet and dry receptors called our cholinergic receptors.

they also can increase appetite, which in a population like America, where we have upwards of 90% of people having at least one marker of cardiovascular disease, we don't need medications that increase our appetite.

We know that most of the time these symptoms are very mild, and they tend to resolve as soon as you start the medication. However, if you have any kind of problem using this medication for more than a couple of days, really has no benefit.

we also know that there is a more serious long term effect where people who are on this medication for years and years and years have an increased risk of a certain type of brain tumor called glioma, and that is specifically in patients who use long term antihistamines for allergic conditions.

Non-Severe antihistamines tend to be better tolerated. they are more commonly used for long term use. People say that there's no serious side effects, however, they can cause, liver injury.

So we do have to be cautious. We do have to be cautious there. And so long term effects of taking allergy

medicines are very, very real. And you know, we we also need to touch on I think the corticosteroids which are very dangerous used long term.

they are powerful anti-inflammatory medications. They absolutely can be lifesaving. However, over the long term we know that they can cause osteoporosis, increased blood pressure.

They can lead to diabetes. We know that they can ulcer the stomach cause cause muscle weakness. and it just goes on and on and on. How how they can be risky for us.

there are medications that work as mast cell, mast cell stabilizers. And these drugs prevent the release of histamine from immune cells, specifically our mast cells.

And yes, they can slow the symptoms. However, they just over the long term, we don't have enough information to predict what might happen along the way.

And then, of course, when it comes to kind of if you're if you're at death's door and you're having a true anaphylactic reaction, you do need an EpiPen and we need to be sure that we are suppressing this allergic reaction almost instantly.

However, if you're finding that you need EpiPen pens and epinephrine shots on the regular, this is not something that is meant to be used long term. It is not something that is meant to be used regularly.

This is only intended for use as a life saving medication at the time of an anaphylactic reaction. So we have lots of different side effects that can come about by using these anti-allergy medications.

And I guess I'll also touch on the, Luca trying inhibitors. and so leukotrienes are another inflammatory, mediator.

Root causes of mast cell activation and histamine intolerance

And they are typically only used for things like hay fever because the mast cell activation and the histamine sensitivity kind of goes through a different pathway.

However, leukotrienes are very much related within these pathways. And we know that there is current ongoing litigation against the manufacturers of these leukotrienes inhibitors because they falsely claimed that the medications did not cross the blood brain barrier.

And what we have seen is that they have a significant capacity to cross the blood brain barrier and can cause anxiety, hallucinations, aggressive behavior, depression, suicidal ideation, as well as suicidal completion.

And so we have to be very cautious about using these meds, especially in children. Yeah, those are all just such great points. I had an experience. I have children with food allergies, and so we've had to do a lot of immunotherapy for them, over the years.

And I remember being in the allergist, office with the kids, and they wanted to put them on Singulair and they were telling me that, you know, to watch for depression.

You know, I have a 12 year old and they're telling me to watch for depression and all these. I'm like, there's no way I'm giving him. So I'm not saying that you shouldn't take your medicine if it's prescribed, but in my case, I knew that was not necessary.

And I was like, there's no way that we're doing this. We're getting, you know, and these are all good points. Sometimes I have people come to me taking 2 to 3 zero tech, which is like A1A day and a histamine 2 to 3 times a day, every day.

And so at that point, we really need to jump into what's the root cause. So I think with you and me and like our

approaches, if you feel like you're having to use all of these medications, they can be great for a time and a purpose.

But really taking that step back and finding the root cause, looking at some of the root causes and really talking about some alternative treatments when we're talking about mass activation, histamine intolerance.

So researchers aren't exactly sure, what causes ncache in a lot of people? We do know that there are three different variants. and so there's primary, secondary and idiopathic.

Primary MCAs is related to a certain mutation in your genes. And this is found when the body produces too many mast cells. And it is because of the genes that display these mast cells display a variant on their surface.

And and the body just keeps cranking them, keeps cranking them out. Secondary MCAs is because of an indirect result of another immuno logic condition.

So if you have a food allergy, an environmental allergy, an allergy to medications, this can be a trigger for, for in cars. Right. And so we we also have idiopathic in cars.

So idiopathic just means like we don't know what it is. And so we don't know why these people have idiopathic MCs. It's not because of their genes. And it's not because of an environmental trigger which are basically the two biggest.

They're really the only triggers that exist. If you look at your your in functional medicine, what we call the antecedents, the things that were there before the trigger that causes it to happen.

And then we have the mediators, the atoms, things that make it, things that make it better. And so if it's not because of genes and it's not because of an IgG mediated allergen trigger, then we simply don't know what is causing the problem.

We do know that there is an evolving body of research that is looking at the intestinal dysbiosis of people who have histamine intolerance. we know that people have a lower proportion of certain kinds of fecal bacteria as well as more Staphylococcus and Proteus.

People have more Enterobacteriaceae, a more Clostridium species, a more enteric caucus. And so all of those if you if you don't know, you know, staff and Clostridium and Enterococcus and go back to ACA, these are pathogenic bugs.

And so we can also look at do I have an abundance of bacteria in my gut which may be histamine secreting? And how can we intentionally work on our gut health to shift us away from some of these more pathogenic, histamine producing bacteria towards some of the more beneficial bacteria, that we have in our body?

We know that there is a relationship between our intestinal, microbiota as well as how tolerant or intolerant that we are to histamine. And so we need to ensure that bacterial strains in our gut are, well taken care of, because the vicious cycle is when you have too much histamine, the more beneficial strains start to degrade over time.

And we shift towards bacteria that can produce more histamine. So we need to take a big step back and look at our gut, as well as checking our genes to see if there was something predisposing us to the problem.

and then if it is related to a trigger such as a food allergy, an environmental allergy or a medication allergy, we need to be cognizant of that and be sure that we are doing what we can to avoid those triggers.

I I'm always a huge fan of an elimination diet. If you haven't done one recently, maybe it's time to do one all over again. And so we have an opportunity to remove the gut triggers.

You know it. The five hour protocol in in functional medicine I absolutely love and it's it's labeled to to heal leaky

gut. But if you heal leaky gut you heal leaky everything.

And when you heal a leaky gut, you have fewer inflammatory mediators and fewer proteins and amino acids that can cross the gut barrier along the way. And so remove the gut triggers repopulate with good probiotics and prebiotic fibers, restore what's been lost because if you are someone you know, if you are someone who has histamine intolerance, we know that your gut is going to be inflamed, which means that you are spilling out bacteria and minerals, in your stool.

And importantly, we also know that people who have good levels of vitamin C, vitamin C, reduces histamine release from mast cells. Vitamin D can also be very, very useful.

And vitamin vitamin D is one of the key nutrients that can help to seal off the lining of the gut. And so being cognizant and adding back in some of those things along the way, and then maybe using some supplements to help repair the lining of the gut as well.

And so lots of different ways that this, that, this, that this disease can come about, other triggers that we haven't even really touched on. I mean, stress what disease distress.

Not cause. Right. Emotional stress, physical stress, environmental stress, pain can be in there. Hot and cold temperatures. Maybe, you know, maybe you have been out there on the internet learning about hormones and hermetic stressors and decide to do a cold plunge.

And now all of a sudden you have your mast cells getting triggered. over, over. Exercising can be a problem as well. exposure to venoms can be a trigger, an environmental trigger, even even infections, irritation on the surface of the skin can cause problems.

Even exposure to excessive sunlight can be a problem that can activate our mast cells. And so lots of things can trigger it. But really and truly, I don't want to simplify and make it sound like there's, you know, one way to heal all disease.

But really and truly, there are only eight root causes of disease. And if you have exposures to one of those eight root causes on the regular, eliminating it will also help.

It's not only gonna help your case not only going to help your histamine intolerance, it's going to help everything going. I think it's important, too.

There are lots of foods that contain histamines, hard cheeses and fish, spinach. Spinach also contains oxalates, which some people can be very sensitive to.

and then also cured meats and sausages. not only do they contain lots of, histamines, but they're also known class one carcinogens, according to the so and so cured meats or something that you can minimize in your diet.

Alcohol has a lot of histamine in it. some people have success doing a low Fodmap diet and so avoiding things like dairy and wheat. And if you're doing truly a low Fodmap legumes and apples and peaches and asparagus and broccoli also come out of the diet as well.

So if like I said, if you haven't done it yet, going on an elimination diet is a great place to start. not only with Cass, but basically with every disease under the sun.

Yes, you have so many good points there.

Gut health, elimination diets, and nutrient support

And, one of the things that I wanted to even mention, because I agree with you, especially in histamine intolerance, but but also in mixed healing, your gut is cornerstone for so many things.

But really, to get your immune system calmed down, really? We know that you're saying, as you're saying the dysbiosis, the imbalance of the histamine producing bacteria.

But one thing, and I've seen this over the years, that you don't always have gut health, gut sometimes. So I you know, people will say we need to I'll say we need to work on gut healing.

And they'll say, well, I'm not symptomatic. I really don't have bloating. I'm not having gas. I'm going. And but when you heal the gut, you still see all of those other things clear up.

And it is amazing because there's not always a connection, you know, symptoms come up. So different. I think that's one of the difficult things with both of these conditions is there's so many different symptoms.

You know, you may have allergic symptoms, you may have pain, you may have migraines, you may have gut health, you may all these different symptoms are not all you know, you're not always connecting the dots.

But by going back to some of those foundational things, pulling out the triggers, doing the gut health work, those are all just so impactful and can make a huge difference.

Yeah. Oh, absolutely. Even if even if gut health is not your primary symptom that you are experiencing, there's there's really no condition that working on your gut doesn't help.

Right. And so you may be experiencing the urticaria or the, the, the wheezing and the problems that you typically associate with allergic reactions. But working on gut health is not only going to help your gut, it's going to help everything else along the way.

And specifically for people with Marcus and histamine intolerance, I think the most important point is that you are reducing the body's capacity to pass inflammatory mediators from your food into your blood, and you're reducing the body's ability to to move allergenic proteins as well.

So working on gut health is never a bad place to start, no matter what the condition is. Another thing that you mentioned, which I see all the time too a stress.

So we see that levels of stress, you know, you're really thinking of think of it sometimes like the bucket and you have the gut health issues and maybe the mold and the tick borne illness and the viruses and all that.

And then you have stress, and stress can put you over the top. You know, stressors come biologically. They come from emotionally. They come, you know, trauma all of these things.

So sometimes I hear a lot of times of people being put on benzodiazepines because of that stress when we're dealing with mixing and as we both know, those can be addictive.

There can be long term problems with that. So I just wanted to touch upon maybe, you know, the difference in really just going on something like a benzodiazepine versus working on dealing with stress, maybe nervous system rewiring, maybe some.

I love Gaba, all those things because it can be a big difference. You can really go to the root of the stress rather than just putting something again, like a Band-Aid on it with something like a benzodiazepine.

Yeah, I mean, a benzo, a benzo. Yes. It can reduce your stress. However, why are you stressed to begin with is what we need to really look at. You know, we also know that lorazepam, clonazepam, they do have mass stabilizing effects.

They can stabilize mast cells. However, if you are relying on a benzodiazepine as a long term solution to anxiety, you are putting yourself at risk not only for the dependance on the medication, but you are also putting yourself at a greater risk for a rebound.

Anxiety to where when you try to come off of the medication now, the anxiety becomes worse. Now the mast cell, stabilization symptoms become worse and so you're in this cycle.

We know also that benzos that. So I call benzodiazepines tablets alcohol because they work on the exact same receptor. They have the exact same effects and the exact same side effects.

And so you're also putting yourself at a greater risk for many of the same side effects that come from long, long term alcohol use disorders. We know that you're not going to have as high of a risk of liver disease, etc.

however, you are putting yourself at the risk for the long term. Cognitive problems that can happen falls in older adults who are using benzodiazepines is a huge problem as well.

this is another medication that is on beer's list of, medications that are typically not advisable in older adults. And so we are using benzos at this increasing rate.

And another thing that I will mention about benzodiazepines is benzodiazepines have very very different durations of actions and onset of action. And so the faster acting that your benzodiazepine is, the more likely it is to be addictive.

So if you're going to use a benzodiazepine long term, you are at much less risk for having the addictive side effects. If you're using like a Clinicas, a Pam versus an oxy as a Pam or a temazepam, lorazepam is going to be right there, kind of in the middle.

But if you're going to use it long term, we need to be sure that we're using a longer acting one so that we don't start to foster the withdrawal symptoms, which leads to the drug seeking behaviors, which leads to the overt addiction that can come from it.

Now, the risk of the longer acting benzo is the benzodiazepines are very, very safe medications until you combine them with alcohol and when you combine them with alcohol, they become rapidly fatal.

And so we also need to be sure that we're not using benzos in combination with alcohol, because they simply are a tablet sized version of alcohol that's working on the same receptor.

So if you're going to use it, be sure that you're getting a long acting one. And if your prescriber looks at you like you got six heads when you ask for a longer acting benzo, talk to your pharmacist before you go in to discuss with your prescriber so that you at least have it in your head.

Which 1 a.m. I going to ask for along the way?

Stress, caffeine, and benzodiazepines

And so and and really and truly, when it comes to medications that are addictive, the less you can use them, the better. And so we need to look at why do you have the anxiety to begin with.

And maybe it's a toxic relationship. Maybe it's a toxin in your food or your environment. Maybe it is, you know, a medication, maybe you're drinking too much caffeine.

I mean, caffeine is the number one cause of anxiety. And I think it is so underreported how important it is to cease using caffeine if you have any kind of of anxiety condition.

This is also really important in children. the metabolism of caffeine and the half life of caffeine gets shorter as we get older. And so when we use caffeine in children, the half life can be upwards of 72 hours.

And so you're thinking like, you know what is wrong with my kid? Why are they bouncing off the walls? And then you might realize, well, they had caffeine a day and a half ago, and it is still inhibiting their adenosine receptor,

causing them to have this hyperactivity.

And so the thing about caffeine is caffeine. Caffeine doesn't exactly make you feel more awake. What it does is it inhibits your ability to feel sleepy.

So caffeine is not truly a nervous system activator in the same way as a medication like amphetamine would be. What it does is it inhibits the action of adenosine, which simply makes you forget that you're tired.

The problem is, you inhibit the production of adenosine for days in children and at least 4 to 6 hours in adults. So if you are using caffeine chronically throughout the day, you are running the risk of not being able to fall asleep at night, which means that you will be at a higher risk for having anxiety in the long run, because your brain is not restoring itself as you sleep at night.

Those are such great help and tips. I mean, and I think we also all metabolize caffeine different genetically. That was really something that was enlightening to me.

Whenever I did genetic testing. Because you and that's why you have people ask, well, why can someone have a cup of coffee later in the day and fall asleep?

Well, I can't have it in the morning, but there's a genetic propensity to metabolism of caffeine to. Absolutely. I mean, everyone's metabolism of basically everything is is different.

And all of the all of the genetic polymorphisms that that go into determining, like who we are, how quickly we process, what we are able to tolerate versus not is is an is an entire different conversation.

That is a huge body of research right there. But you are absolutely correct. We all metabolize caffeine at dramatically different rate, and we metabolize caffeine at dramatically different rates across our lifespan.

So what you may have been able to tolerate in your 20s, you may not be able to tolerate in your 40s. And to your point, if we do have these genetic alterations, we need to take that into account.

And I also will mention, you know, you said you said that there are. Sorry. That's okay. Yep. All right. Yeah I was I was waiting on it. Okay. Yeah. Where was I going with this?

we were talking genes. We were talking caffeine. We were talking about. You were saying in your lifetime, there's. Oh, yeah. Yeah, I know, I know. Okay, I know where this was going. Okay.

Another thing about people who can tolerate massive amounts of caffeine, that is another emerging body of research, is that their adrenal glands may be tapped out.

Right. And so adrenal fatigue, people want to say it's not a real thing, but adrenal fatigue. You may not want to call it that, but if you are under chronic stress, the impact of long term cortisol exposure is a well known, very well documented set of symptoms that is a natural byproduct of being under hypercortisolemia all of the time your body simply says, I cannot produce any more cortisol or I am going to die and so if you're able to tolerate massive amounts of caffeine, you may need to take a look at am I in a situation where I have hypercortisolemia to the point where my body is shutting down my natural processes as a way to guard me from dying, basically.

And so I know a lot of people that will do. I know a ton of people that will drink a cup of coffee and then just go straight to bed. I mean, the people that can take two shots of espresso and then go straight to bed.

I am not one of them. However, it is a marker that there could be something deeper going on. Another thing about caffeine and about stress and anxiety and mast and max and histamine intolerance is we know that the FDA recommends that every person drink less than 400mg of caffeine in a day.

Well, I mean, if you have energy drinks out there, I don't know if you're aware of the case that was recently brought

against Panera Bread. And they have an energy drink that has just absolutely over the top.

Ridiculous. I cannot even remember what the amount of caffeine was, but it far exceeded 400mg and they were kind enough to combine it with like 150g of sugar in this drink.

And so we're putting people at risk by pushing and pushing and pushing these levels of caffeine to places where they're intolerable. Wow. That's a great point.

Closing remarks and where to find Dr. Elmore

And we're really not checking. You know, we don't know to check. We don't know how to check. You're not like looking at the label to see off and what.

That's a good point actually. Just with all of this is become becoming self-aware. And you know, you if you have mast cell activation or if you have histamine intolerance, you are likely more sensitive to danger.

You're experiencing these sensitivities. And you do sometimes have to become more aware and really looking into your products all around. Like how you know what, like we were talking about earlier, what's in the product, how well you can look at how much caffeine's in there, you know, all the different things and just becoming self-aware so that you can really, I say, become your own medical detective.

Really. Because when we start to look at those pieces and put them together, we often can start to see those connections and really find some of our own steps of healing, too.

So, absolutely, so much. You've given us such great information. I appreciate all, the wealth of knowledge you provided. Can you tell our listeners how they can find you?

Yes, absolutely. So you can find me on I'm very easy to find on social media @LindseyElmore on Instagram and Facebook, as well as @DrLindseyElmore on TikTok and, Pinterest.

And then you can also just head to Lindseyelmore.com. And please go and follow my podcast where we talk about all kinds of health related issues and check out talk, check out Dr. Meg Mill's interview with me on the podcast if you want to learn more.

Yes. Well, thank you so much for being here, Lindsey, and have a great day everyone.