Mushrooms Are Powerhouses For Supporting Your Immune Function Transcript

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Introduction and Mason Bresettu2019s background

Okay. Welcome, Mason. I am so glad that you agreed to be part of the M. S. and Neuroimmune Summit. And again, I so appreciate all the wonderful work that you're doing.

Now, what I'd like to have you do, Mason, is explain who you are, your background, and why you have your expertize to talk about mushrooms. Great. Thanks for having me, Terry.

Really appreciate it. So I'm Dr. Mason Bresett I'm a naturopathy doctor. I have a primary clinic here in Canada, Ontario, Canada. And I'm the chief science advisor for Real Mushrooms, which is a medicinal mushroom extract company.

I've been using medicinal mushrooms in my clinical practice for many years, in anything from acute immune cases to chronic immune cases to other sorts of primary health care issues that come up when dealing with people in a one on one doctor's office setting.

So throughout my studies with Naturopathy Medical School, throughout my clinical experience and rotations, I've basically come to be very, very interested in not only herbal adaptogens, but medicinal and medicinal mushroom adaptogens.

And this kind of allowed me to do more research in the world where we're looking into how medicinal mushrooms affect all types of health, whether that be wellness prevention, and then also things like acute and chronic treatment.

So I've been diving into the medicinal mushroom research and the traditional context of mushrooms for the last, I would say, almost decade. Okay, this is lovely.

Now, everyone, all all of you who are listening. Mushrooms are a vital part of the walls. Protocol. And I did that very intentionally because the research is is really quite striking on a observational basis that the more mushrooms you have in your diet, the lower the rates of anxiety, depression and cognitive decline.

And for that reason, I made mushrooms a big part of my culinary tradition. And now I think the research continues to grow now that scientists are looking at particular molecules in supplement studies for the animal models of neurodegeneration.

So let's sort of dove into this. How is it that mushrooms are having this big effect on our mental health and on neurodegeneration? That's a great question.

How medicinal mushrooms support immunity and health

And it it can basically start right from the starting point, which is our immune system. And we know that medicinal mushrooms have these compounds in them, and some of them, we note, as active compounds and some of them are more secondary compounds.

So how I like to describe it is all mushrooms have an affinity to our health and affinity to the immune system, and they also have these sort of secondary characteristics that also help these systems in our body.

So some of the major compounds that are in medicinal mushrooms and functional mushrooms are things known as polysaccharides. And these specific active compounds have an array of activity within the immune system, and

they also have actions on different systems in the body.

So for an example, they can work with immune modulation, meaning they can sort of bring balance to your immune system depending on the context. They can support the gut and microbiome of individuals taking them.

They work on the 2 to 3 systems of the immune system. So we have the innate immune system, the adaptive immune system, and then sort of this new concept known as trained immunity, which is sort of like this memory within the innate system.

And looking at how the these mushrooms help is as amazing because they're accessible to pretty much everybody that goes to a farmer's market. Anybody that goes into their local supermarket, they can be used as a culinary medicine, but also in specific forms of extracts in the health and wellness world.

Okay, now everyone who's listening, the term innate immune system means that part of the immune system that protects me from infections during the first two weeks of that infection, it's exposure.

And then as my body's getting used to that exposure, I can start making antibodies to protect me and that will kick in at about two weeks. That's the adaptive immune system.

So both are really very, very helpful to us. Now, when we talk about the mushrooms, we don't think about these specific molecules or compounds that might be having some of this effect.

Yeah, so there's quite a few that we're more interested in within the neuro immune neurological world. And again, the beta glucans, which are those main polysaccharides in mushrooms are of interest.

There's different secondary compounds like Cordis up in which is in the mushroom cordyceps. And then there's other compounds that are relevant when dealing with oxidative stress, also known as inflammation.

And these are things like try Terrapins ergot thiamin. And also there's a really big class of compounds that we're really interested in when looking at the brain or any kind of nervous system disorder or neuro immune disorder and that's these things called terpene points, and they are mostly found in a few special mushrooms that we'll talk about, and specifically one of them being lion's mane.

And then mushrooms also have different phenols and flavonoids, just like herbs and other other antioxidant, rich plants. So they also have those. Okay.

Now, do you have some favorite mushrooms that you like to recommend? I know. I abbeyfield so we can sort of compare. Let's see, what are the we want to.

Go first or me. I think you should go first. You're more of the mushroom expert than me. Okay. When looking at mushrooms in this arena, I really like lion's mane, oyster mushroom, reishi mushroom.

And then usually a blend looking at including some other mushrooms like charred turkey, tail, shitake and my toki. So those are the the big ones that we see are the the ones that I like when working in this world of the nervous system, the neuro immune world.

Key mushroom compounds for neuroimmune health

And we know that different mushrooms have a lot of the similar characteristics like I, I named a noted, but they also have their own unique personalities.

So those are the top ones that I like when looking into this area of supporting neurological health. Well, I think there's a lot of overlap. So personally, I like having a lot of lion's mane every day.

I also think it tastes delicious. So I will go pick some lion's mane up in. I'd enjoy that as well. I like Ricci. I think

that's really helpful for calming.

I am way overly activated. It's hard for me, hard for me to calm down, calm my mind so I can sleep at night. She's been super helpful for that. I like Turkey tell a lot and I have many, many patients with M. S.

are worried about the risk of secondary cancers because of the disease modifying drug treatments that many of us have taken in the past or are taking currently.

So I certainly encourage a lion's mane then. The turkey is very nice. I like Chagas as well. And like you, I. I really like to see a blend of mushrooms.

I have a blend of mushrooms and I get a bag of turkey tail and I blend those two extracts and I take a heaping teaspoon of that mushroom extract every day when I making my smoothie that I have every evening.

Sounds like a great smoothie and packed full of great immune modifying nutrients and compounds. Yeah. You know, I think it's my goal for everyone to have at least 200 different plant species that we're having every year.

And, you know, I was really quite shocked when I learned that mushrooms are their own separate kingdom, that, you know, it's like, what, mushrooms aren't part of the plant kingdom.

I was totally shocked by that. I suppose your totally aware of that Masons, correct? Yeah, but it's still, it still baffles my mind as well, Terry. And just just the intricate nature of the different genetics from plants and also humans versus mushrooms is quite remarkable.

And I think within that there's some great physiological evidence that can suggest that they can help us in different ways than those other plants, herbs, nutrients.

Let's talk about that. Ergo thinning and oh, what what's special about that molecule for brains? So then we could go a little bit further. Does it have special utility for people with MSA?

Neuro immune? Yeah. So ergothioneine for those who don't know what that is, it's a it's a sulfur containing amino acid that's found only in a few foods and mushrooms being one of the top ones.

Favorite mushrooms for neurological support

And when looking into this research, I've learned a lot from a few key researchers. HALLOWELL He's out of Singapore and Dr. Bob Beekman. And when we look into the Ergothioneine research, we can see that it's sort of like this adaptive antioxidant, and it's in a similar class to the more commonly known antioxidant, known as glutathione.

And the structure just differs a little bit based on the chemical nature of them. So what's interesting about Ergothioneine is that the body systems that we see it show up in the most have the most oxidative stress or inflammation.

So when looking at where the body sort of uses up the glucose iron or sort of virga thiamin, it's in these areas that have a high turnover of stress. And these are areas like the I like the red blood cell, like our immune cells and also our brain.

So this becomes really relevant when looking into neurological disorders because of some of the interesting clinical and preclinical studies that have been done.

And what the summary is is basically as we age, our ergothioneine seems to drop. And I would argue that also or not argue, but I would add that if we have any kind of disorder or medical condition that creates more turnover or inflammation, our levels are going to drop.

So when looking at ergot thiamin, we see that around the age of around 55, 60, those levels became to drop. And there hasn't been a lot of studies done on some of these medical conditions.

But when we look into our designing, we know that certain parts of the world eat more or they have more in their diet, meaning they're eating more mushrooms, they're taking more refining.

And by studying those populations, we can see that when you can increase your lifespan by almost three years by looking at the data and then too, you can decrease your risk of some of these neuro degenerative diseases.

And these are based on these biomarker studies that look into how ergothioneine shows up in in our health. And some of this becomes relevant when looking at neuro immune cases because of the amount of inflammation that can happen, the amount of turnover happening at a cellular level in the brain or in the nervous system.

So it's a really interesting compound that, again, it's been studied a lot in animals, a lot in cell studies, a lot in pretty clinical trials, preclinical studies, sorry.

And looking at the future of our society, I think is very bright. And also anything to do with cognitive decline or lowered energy levels that comes with a chronic illness or comes with a neuro immune problem.

I think our growth high is relevant. You know, as I'm listening to you so I'm thinking M. S and then all of those autoimmune conditions with neurologic and psychiatric symptoms.

And then, you know, I'm also thinking about my ants. I have three ants, all of whom had age related macular degeneration and went blind and developed cognitive issues.

Ergothioneine and brain protection

And I'm thinking that the retina probably would have been helped by that, ergo thinning and. Well, what do you think would that be? Probably true. I think so.

There's not a ton of direct studies with the eye right now. But, you know, we know that the retina and the brain, they're derived from the same embryology tissue.

So I think that, yeah, if there is that high turnover at that retina level, just like at the red blood cell level, some some buffer, there are some resistance there.

It would definitely would have been helpful and is helpful. So if we assume that mushroom forms are helpful as an immune modulator, you know, if someone's having more more relapses, more autoimmune activity leading to more symptoms, is this a reason to increase my mushroom intake?

What do you think? Yeah, it's it's always case dependent when looking at autoimmunity and the particular person suffering with that. And I think more times than not, it is relevant.

Due to the amino modulating nature of medicinal mushrooms. There is times when if someone is in a inflammatory flare or something's not going right with their their body in the moment, then mushrooms might impact people negatively.

And that is a reality. But we do know that overall, when looking at some of the mechanisms, some of the clinical use of mushrooms, I really think that reishi and cordyceps are ones to lean into more just based on the immunology and how that interacts with our immune system.

But we do know that mushrooms are multifaceted and they can support people in different ways. And if you zoom out from that more immunological lens, you can see that they're they're doing different things.

They're anti-inflammatory, they're redox regulating. They can support the gut biome which has these downstream

and upstream effects on autoimmune conditions.

And we do know that some people do trend towards one taping of the immune system. So if somebody is in that zone, we can either bring them back to the middle or we can use medicinal mushrooms to help with that immune balancing protocol.

So we could think about the mushrooms as a wellness support for the autoimmune. And my patient, I wouldn't use mushrooms as a in place of taking a disease, modifying drug treatment, but can certainly be sort of support.

And I think I'm hearing you say that if I mean a flare, I would not you wouldn't be telling me to avoid mushrooms, that it would be okay to have mushrooms with my steak or mushrooms added to whatever casserole or dish that I'm eating that they certainly would be fine to eat along with my meals.

Absolutely. Yes, definitely. Those culinary mushrooms are okay to take when in that scenario, with multiple sclerosis patients, autoimmune patients are totally safe to be eating at that time and if not probably supportive.

What we need to consider is also that low dose of a few culinary mushrooms or in a blend seems to do quite well, especially with my patients when having an autoimmune condition or myths.

And then it's just recommended to get more specific advice when using some of the higher extract mushrooms, perhaps during a flare. You know, certainly again, everyone who's listening, I want you to know that I'm encouraging all of my patients to include medicinal mushrooms as part of their wellness support.

Well, as we work together, I really like them to have my information in. I'd like them to have a blend of mushrooms. And I think it's okay to go through a variety of blends.

Mushrooms, autoimmunity, and flare considerations

I like having diversity and I would say diversity in mushrooms are okay. And so I'll go through a variety of the blends, but I'm always taking my lines.

Me You know, I, I can't say that I ever go without it. Maybe when I'm traveling, I don't, I don't take it with me. But otherwise I'm always including lion's mane in that self care wellness mushroom cocktail that I so enjoy. Now, is there any do you have any thoughts about anxiety and depression?

That is a huge factor for people with M. S. in their immune conditions. Anxiety and depression are our diagnoses in about a third of those patients and another third will have anxiety and depressive symptoms, even if they don't meet diagnostic criteria.

Is there a role for mushrooms for those issues? Yes. So when dealing with a chronic illness and having the mood impacting symptoms, mushrooms can absolutely be something to lean into and use.

And every day, I believe the two that I use the most often in this scenario are Kacie and Lion's Mane. But again, even eating mushrooms at a regular basis is going to decrease your depression.

And there are studies to actually show this, and it's a dose dependent sort of curve, meaning the more that you eat up until a certain limit, obviously the less amount of anxiety and depression that you will have, specifically depression shown in some of these longer trials that have been done.

Rashi specifically has more of a calming nature, so it can actually have an anti-anxiety effect. And there's certain compounds in Rishi that help this move along like and those are the tighter patterns.

And lion's mane also can be implicated here because of the different compounds that can help support mood. And there's different research on different modes and models of depression that show that if people are having mood symptoms, that perhaps the compounds in mushrooms that help the neurological system could help this.

And when looking at mood, we also have to look at the just general nutrient and vitamin and medicinal effects that eating mushrooms can have from a mental health perspective when going through having symptoms such as what you mentioned there, Terry.

And one more area of question, how about nutritional yeast or brewer's yeast? So any any benefit there, is that a useful food for people to consider? That's some that's an interesting one.

I don't prescribe it a lot or really, you know, do a lot with it. I think that, you know, different yeasts have different therapeutic and medicinal values. But yeah, I don't know the the long term benefits of that with my patients or with neuro immune patients.

Mood support, nutritional yeast, and practical takeaways

So yeah, I don't think it is a bad idea for some people that tolerate it, but I think for others it can actually really implicate negative side effects for them.

So again, if you're going to try nutritional yeast, try it and see that. Do you have any adverse reactions to it? One of the things that I think makes nutritional yeast attractive is that it has to have a rich, cheesy, like flavor.

And if I asked you to give up dairy for many people, like, oh my gosh, that is really hard. So that's great recipe where you grind up a little walnuts, English wallets and blend it with nutritional yeast and sea salt to make a parmesan like spread.

That is really quite delicious. And it's my family's option as a cheese alternative because for me, dairy will trigger severe exacerbations of my trigeminal neuralgia. So it's been a very helpful culinary treat for us.

Yeah, that's a great adjunct or dairy alternative for sure, for that flavor profile. Yeah, it has a little umami flavor, so that can be very nice. But again, for some people it can cause some headache issues.

So try a small dose, see how it works for you. If it does, it can add a nice flavor for you know. Mason What is the one thing you want everyone to have taken from our conversation today?

I think I'd like whether you're an MST patient or someone suffering from a chronic immune disorder that mushrooms can be helpful in your program, in your plan, in your life.

And mushrooms are a food first, so it makes them very safe compared to a lot of these other therapeutics we use. So when working with mushrooms, there's so many ways to do it.

You know, you could be walking in the woods and exploring mushrooms, growing in your local area. You could be taking a specific mushroom extract with your smoothie or your coffee, or you could be using more specific doses, working with your practitioner to really implicate tough and chronic health conditions that are really impacting your quality of life and mushrooms.

Although we may be putting out the fact that they can do everything, you know, there are limits to them. They're not going to fix every problem. So I really want people to know that they are a helpful ally to introduce into your lifestyle, to get positive change with your health.

And looking through the research, Lion's Mane, a five defenders blend or a mixture of mushrooms can be really helpful. And also, don't forget about the wild mushrooms as they have some of the highest amounts of our irony as well.

And I also like oyster mushroom. I love all mushrooms, but oyster mushroom is the mushroom that has the highest amount of are defining and that is readily available at most grocery stores, most supermarkets these days.

Okay. Now, for all of you that just get fired up and you want to go out, wild mushroom, be sure you take an expert

with you who can safely identify those mushrooms because there are some mushrooms that we can't metabolize and can make you very ill and actually kill you.

However, finding someone to take you out and to learn wild mushroom in that also can be so much fun. Now, Mason, this has been wonderful. I could talk for hours with you were good people go to find you and to follow you.

You can find me at WW w dot real mushrooms dot com and that's where you'll find the information about some of the new projects we're coming up with some of the research projects that we're doing right now.

We've got a few cancer trials that we're going to be entering into with using medicinal mushrooms. And also my personal information is w WW dot the health creation loudobbs.com.

If you want to learn more about my clinic and how I use mushrooms on an everyday basis with patients. Okay, that was sort of fast. So real mushrooms, people remember that one, but the longer one just for you.

Can you repeat that one more time? Sure. My clinic information is the health creation lab dot com, and that's where you can learn more about me and my clinical approach with patients.

Okay, this has been wonderful. Thank you so much. Mason Thanks for having me.