

Bob Falcone:

I'm Bob Falcone, CEO of the Columbus Medical Association and Affiliates. Today we have a panel of experts to discuss the longterm sequela of COVID-19 infection, also known as the COVID long haul syndrome.

Bob Falcone:

Hi, Dr. Meara. As a rheumatologist and a immunologist at the Ohio State University Wexner Medical Center you're perfect for this discussion on COVID and long haulers. But before we get to COVID, let's talk a little bit about viruses. What do we see in general with severe viral infection and sequela?

Dr. Alexa Meara:

So I think virus and autoimmune disease is a long history there. You think about parvovirus and slapped cheeks, and then women showing up and then having an inflammatory arthritis. Chikungunya from South America that has an inflammatory arthritis as a sequela. Chronic Lyme disease, there's many discussions and different takes on that.

Dr. Alexa Meara:

But infection creates an immune response, and in some people that immune response leads to some sort of long exposure of either an auto-immune disease, or some people just take longer to get over it, or it creates auto-immune disease. To create auto immune disease, you just need the right genetic host within right environmental stimulus. And in some people, all that is, is it infection.

Dr. Alexa Meara:

And so us, in rheumatology, the understanding that a virus can start off a cascade of symptoms that may lead to an autoimmune syndrome is pretty normal. It's what I do every day. COVID is unique in the sense of the amount of numbers of people having the one virus all at the same time. Because if you think about adenoviruses or parvoviruses in kids and different things, you hear it and they have a high fever, but it's not a hundred million people all at once. And so it's easy to figure out the resources and who they need to see if it's one out of a million or ... And please don't totally quote me in those datas, but however often that happens.

Dr. Alexa Meara:

But in those examples, it's a lot easier to handle. In COVID now, with patients having exposed to a virus, some people are taking longer than others to get better. And some people are developing new symptoms after COVID. The numbers now are just very different and it's exploding. And so how do we create systems to be able to take care of those things?

Bob Falcone:

Yeah. So the denominator is much larger with COVID. Is the pathophysiology immune or is it persistent viruses and some combination?

Dr. Alexa Meara:

No, it's probably not persistent in virus. Actually COVID there was a great article that just came out that talked about the autoantibodies that are created, particularly in COVID antibodies. There are certain viruses that just for whatever reason, create more autoantibodies. There's a long discussion of EBV and

autoantibody disease. I mean, lupus and an EBV has been long ... or CMV has been long discussed in those kind of things.

Dr. Alexa Meara:

So COVID, it does create a new unique autoantibody spike. The question is what's ... Because that's all correlative, what's causal? So just because I create all these autoantibodies, do you actually create an autoimmune disease? And I don't think that we know that yet. And it probably is the right genetic host. And some people may just have some symptoms, a viral arthritis or viral post-symptoms, like macrophage activation syndrome post-infection. Some people just take longer and have an odd immune reaction post, but then they never need anything else. They may be followed, but they need some steroids and it takes them six months to recover and then they're great. In other people, it develops into other diseases.

Dr. Alexa Meara:

And so COVID is unique in that sense, and we're seeing a lot of autoantibody spikes. But I would say that it's really hard to interpret of what's actually meaningful and what's going to actually last longer in patients.

Bob Falcone:

So with COVID, the serious complications during the infection aren't autoimmune, they're an acute inflammatory response that leads towards a lot of multiorgan damage. But for the long haulers, they don't necessarily have to have a serious [inaudible 00:04:47].

Dr. Alexa Meara:

Correct, correct.

Bob Falcone:

[crosstalk 00:04:50] to get the syndrome, right?

Dr. Alexa Meara:

Right. So it's just, unfortunately it's again, combination of maybe luck, circumstance and your genetics and you have the infection. And for some people, the chronic fatigue or pain or arthritis or arthralgias like symptoms, or rashes or shortness of breath, I mean, there's a barrage of symptoms. And I think we're still trying to figure out what symptoms are post-viral just taking longer to improve. So sometimes it's pneumonia or bronchitis. We'll tell patients, "It takes six to eight weeks before your cough gets better." You're like, "Don't get an X-ray, it's going to take some time."

Dr. Alexa Meara:

And I think with COVID, we don't know what those parameters of ... Your shortness of breath is going to get better, but it's going to take three months and we can support you. I think, because, one, it's a more novel virus and the volume was so high, and everyone had the same complaint at once, so we're still trying to figure out what a transient post-viral response, and versus what's created now a new chronic disease in that patient.

Dr. Alexa Meara:

As a rheumatologist, I think uniquely I deal with uncertainty all the time. I don't know what I'm treating. Sometimes I have these large boxes and they fit in a vasculitis world versus a lupus world versus inflammatory arthritis world. And I have the same pot of drugs for all my diseases. And I pick and choose based on that. And so for me to look at someone and say, "I don't know exactly what's going to happen, but we're going to try this. I can get you to feel better," is basically what I do every day. And so that uncertainty for me is common. And I think I have a confidence in the uncertainty, knowing that I know that I can get them to feel better, no matter what box they end up going to.

Dr. Alexa Meara:

And eventually over time, patients define themselves. They will define the disease they have. I just have to give them the right amount of time and support. The question is how do you support them to be able to life participate, work participate, family participate to get them through all of those avenues until they can get the treatment that they need or what not happens.

Bob Falcone:

Yeah. And I think you mentioned a number of potential symptoms that included musculoskeletal and dermatologic, pulmonary cardiac. I think one of the biggest complaints I've heard anecdotally from people is this whole idea of inability to concentrate or being in a fog. I don't know if that's just they've been sick and they're getting over it, or if that's one of the spectrum of symptoms that we attribute to COVID.

Dr. Alexa Meara:

I think that this idea of brain fog, that falls under the chronic fatigue, fibromyalgia world. We are in the medical world, we are not great in defining pain and fatigue. This has been a chronic issue for the FDA. What are the outcomes? What are the measurable outcomes? How do you define it? Because it's such a subjective statement. What is brain fog for you and what is brain fog for me, and then how do you measure that in improvement or decrease to be able to create a drug or a clinical trial to improve that.

Dr. Alexa Meara:

The definition of these diseases is really hard, and it doesn't mean it's not important or valid. And I think that's where the medical world gets really ... It's difficult. So if someone sits in my office and they're like, "I just can't work," but there is no objective findings, it's really hard to figure out how to help them. And so I think that's where there's a big disconnect for what people need and what patients need, and us in the medical field.

Dr. Alexa Meara:

And I think the most important things for people with brain fog is getting a sense of control again back in their life. Because a virus, no matter how sick you are, interrupts your life. So whatever you normally were doing, you're no longer doing right now. whether it was exercising daily, eating better or eating different foods, because maybe you're now just eating chicken soup every day. So it disrupts your whole pattern of life. And so getting back to what that pattern was, is going to be really important.

Dr. Alexa Meara:

I think a coping mechanism also is really important. Sometimes, if you are experiencing symptoms, post-viral syndrome or anything, any new disease or any new diagnosis, how do you deal with that, because

that changes your outlook in life. If it is a viral syndrome and if there was disruptions actually at the chemical basis from the virus, what you were before isn't necessarily what you may be after. And I think that ... It's like a woman having a child in that sense. For a woman to have a baby, you have to have an immune tolerance of that child to be able to give birth. And so your immune system is different afterwards, good, bad or indifferent. And so then whatever that means long-term now, and then we have to readjust for that.

Dr. Alexa Meara:

And then I think some of those coping mechanisms, it's really frustrating. I think, "This is now how I have to feel," or I may not have the same tolerance. And maybe it's only a year, but it's still a year. I'm not trying to dismiss that, but that's still a lot of time that they have to figure out how to function differently.

Bob Falcone:

Yeah. I come from a trial background and some of the potential therapies for brain fog and distraction sound a lot like what we do for post-concussion syndrome. It's a lot of rehab, a lot of retraining. I suspect we're going to see the same with pulmonary and rehab and with exercise tolerance. Perhaps we're looking at diet.

Bob Falcone:

But if they'd land on your doorstep and they've had these symptoms for two months, what do you do with your immune system? Do you beat it back? Do you watch them, do you continue physical therapy?

Dr. Alexa Meara:

100% probably all of the above. So I'll see them and I see what symptoms they have. For brain fog and fibromyalgia symptoms, we know that immunosuppressant DMARDs don't don't work. Those nerve and the way the nerves are talking, it's different. It just is what it is. Could it have an autoimmune start from that? Yes. But now the idea of me giving them a biologic or rituximab is probably not going to make them feel any better and just puts them at risk for more infections.

Dr. Alexa Meara:

So I go down very much more of the, if it's a brain fog and the pain syndrome, how is their sleep, make sure they're sleeping okay. I'm a big fan of duloxetine. I don't own any stock in those drugs. I just, that's the one that I choose to work with really well. There's data on diffused osteoarthritis and decreased pain, duloxetine, it's an NSRI so it helps with pain. And if they're a little depressed or anxious, it helps. So in my mind, let's try that, because it's not as sedating. Gabapentin, Lyrica, those drugs are great, but they have dose-dependent weight gain. And that's often an issue for a lot of people. They don't want to gain weight, they're incredibly sedating.

Dr. Alexa Meara:

And so trying to find the happy medium of how they can function and then what you can wean on and off. What drugs that we can stay that maybe just to get us through this issue. And the lab work that I do for every new patient. I want to look for inflammatory reasons. Do they have a symptom or syndrome that is more than just brain fog? Do they have polymyalgia rheumatica? Do they have an impending,

inflammatory arthritis or tenosynovitis or something that's causing them not to have hands work? Have they created a new autoimmune disease or that kind of stuff.

Dr. Alexa Meara:

As well as, I look at general health stuff. Are their thyroid normal, are they anemic? We're in Ohio so everyone has low vitamin D currently in the middle of winter, and that's just only ... So trying to help that and get that to increase that. Anything diet, I know a lot of GI upset and IBS symptoms, that's pretty common also viruses. They wipe out your normal enzymes or gut ... So getting back to some probiotics I think is totally a great thing for patients to do. I think going to talk with functional medicine physicians I think are great, an idea of how does your diet interact with your life and what could you be improved upon in terms of the sensitivities and that kind of stuff.

Dr. Alexa Meara:

I think that's great. I don't think we quite understand that from a medical evidence-based world yet about how to do all that. I think diet is important. I think the gut microbiome is incredibly important, and I still think we're trying to figure that out. So I think that's up to the patient and what they want to do, but I'm very supportive of all of those things.

Dr. Alexa Meara:

Because we just don't have the evidence. And because it disrupts patients' lives differently for every patient, it is hard to have a one-size-fits-all treatment. But I think the rehab component, the behavioral health component, depending on your psychosocial economic status, the social work component of access to healthcare, I think those are the three major components that I think are most important for those patients. And I may just be there trying to coordinate the care because I'm really doing a lot.

Bob Falcone:

Dr. Meara, that was great. Thank you so much for your time. This has been a wonderful introduction to COVID. I look forward to speaking with you again some time.

Dr. Alexa Meara:

Thank you so much for inviting me. Thank you all. I'm around if you guys have any questions. And a dog.