ADAPT Functional Medicine Q&A with Tracey O'Shea

Wednesday, June 9, 2021

1. [I] just started the organic acids section. Are these frequently ordered in conjunction with stool and [small intestinal bacterial overgrowth] (SIBO) tests? Or are they ordered after we have the others back? (05:32)
2. I'm hoping to get a general review on DUTCH testing and how to interpret the results. I'm trying to put together the whole picture with cortisol patterns. Additionally, can you review metabolized cortisol versus free cortisol in this? (10:22)
3. How do we know if patients are getting enough glycine in their diets? [I'm] thinking of patients who are focused on lean cuts of meat only. (24:31)
4. Have you had patients who might need methylation support but are reactive to any methyl forms of vitamins? If so, how do you work with this, and is there an understanding of the cause for the reactivity? (30:02)

Tracey O'Shea: Okay, why don't we get started. All right, welcome. We are recording. And this is Catherine, who's going to be moderating and helping us go through the Q&Ass and the different questions that come through. So everyone has [had an] opportunity, I think, to put your questions in the Q&A box. I do not have any pre-submitted questions. So I don't have anything to throw at you just yet. I'll give everyone a chance to get their questions together if you have any. Case study questions, curriculum material questions, general questions, whatever [you've] got, I am here to answer them. So I'll give everyone an opportunity to put those in the Q&A section. Let's see, I'm trying to think if I have any updates for everyone. Lesson six updates, I think, are there and should be up. So if you haven't gone back to look at lesson six, please do so. We've updated it with all of the current lab companies that we're using, interpretive changes based [on] those labs. I'm starting to update the SIBO stuff. So lesson three, the SIBO lab guide, has also been updated or will be updated soon. And then I'm working again on lesson seven. So we'll be having a lot of the updates on the gut curriculum.

Let's see, there's a question in the chat. "[I] just started the organic acids section. Are these frequently ordered in conjunction with stool and SIBO tests? Or are they ordered after we have the others back?"

That's a good question. I think it depends on how valuable you find the organic acids test eventually. And I think it also depends on the financial situation of your patient, to be honest. Because we have done it a little bit both ways. I'll give you some perspective. When we were doing the initial consult and then [the] case review, like that particular model of care, the

organic acids urine test was always accompanied by the comprehensive stool test and part of our initial panel. So I would say, historically, the organic acids test was ordered alongside that initial grouping of labs.

More recently, I would say, I have probably moved a little bit away from that and have saved the organic acids test for maybe second- or third-tier testing. I find it to be hit-or-miss as far as the value. That's just my personal opinion and personal experience with the organic acids test. I often find it as a complementary test or an adjunctive test to what I'm using. So generally, what that means is, I usually already see the imbalance in the stool test or I usually already see it in SIBO. So when I'm seeing urinary metabolites of bacterial dysbiosis, I'm like, okay, tell me the things I already know. But [it's] nice to have a confirmatory test. So, in that case, I have found it to not necessarily significantly alter my treatment plan personally, in my experience.

I do order it regularly [for] kids, though. That is definitely part of my initial testing in pediatrics, because I think that it is a little bit more helpful from a perspective of autism, [attention-deficit/hyperactivity disorder] (ADHD), [and] some of those kind[s] of conditions. And then people who I think are also having issues with amino acid metabolism or blood sugar issues, or some of the pieces that I think might be a little more helpful that the organic acids might be able to help a little bit more with, then I might add that in the beginning. So I know that goes back and forth. It's not a perfect answer for you, because it is an ever-evolving landscape when it comes to labs. But I would say that if my patient's on a budget, if it's pretty clear they have gut symptoms, that's the primary reason they're coming, there might be some other things in there, but I think I can probably get the information I need. Then I probably would skip the organic acids test first and then maybe circle back around and add that.

Markers that I do think are helpful are the 8-OHdG, the markers for FIGLU. So there are a handful of markers in that organic acids test that are pretty helpful. But again, you're probably going to be able to see folate deficiency on your serum testing. You're going to have homocysteine, you're going to have serum folate, [and] you're going to have serum B12. So again, are they really just complementary markers to things that you're already going to know from your initial round of testing? So yeah, I think that's probably where I'll leave it. I don't want to confuse things too much. But I would say it's a great complementary test. I personally haven't found it to significantly alter my treatment plan other than maybe the 8-OHdG, which is a marker of toxin exposure, generally, some sort of burden, some of the glutathione markers on there, or mitochondrial markers, I should say. I think sometimes that can help push me a little bit more toward looking at toxic burden, mold, environmental toxins, heavy metals. But I would say that I generally eventually get there anyway. I hope that helps answer your question as far as prioritization of that.

Catherine: Tracey, I'm happy to read the next question that came in.

Tracey O'Shea: Sure, yeah, please go ahead.

Catherine: I can just read off these to you. So Teresa says, "I'm hoping to get a general review on DUTCH testing and how to interpret the results. I'm trying to put together the whole picture with cortisol patterns. Additionally, can you review metabolized cortisol versus free cortisol in this?"

Yes. So let me ask you, Teresa, also, are you talking more about the cortisol portion or the entire DUTCH Plus where we're talking about serum hormones? I don't know if maybe you, I'll give you a second to give me a little more detail on what you're looking for. I know, we only covered the cortisol mostly in this. Okay, perfect. So we can just focus on cortisol. So I will say that, I'm happy to go through this. And I'll try to, there's lots of different variations. So I'll try to do my best as far as what kind of information you're looking for.

I think that the handout we have of all the different patterns for the cortisol, if you haven't, I'm sure you've looked at it. But for me, that was a huge help. I downloaded that guide, and I had all the patterns, and I copied and pasted the slides into my own Word doc that I had with each of the different sections so that I could easily find it in a Word doc. Because I hear you on this, the DUTCH cortisol interpretation part has been probably the trickiest for me, as well, as far as the Functional Medicine labs. So I can understand that this is just a little tricky to navigate.

If you're not already on the mailing list, or the email list for DUTCH, I would really encourage you to do that and to go through their resources. I think it's really helpful. I really like their modules and there are webinars, because I think that it really does help give you some additional insight into some of those things.

But [the] whole picture with cortisol patterns. So I think that really, how I generally approach this, again, I'll do my best. There's a lot of general information. As I look at it in, like, four distinct patterns. So I look at it at high free and low total. So we've got this mismatch of, well it will be this way on the test or opposite for you. So a really high free cortisol and a really low total cortisol. And as you know, we often see that pattern in hypothyroidism, [with] someone who's taking licorice supplementation, general states of inflammation, and on occasion, it's fairly normal for that person. We haven't really seen any other impact of that imbalance.

I think when you're interpreting the cortisol pieces, it's important to take as a part of the whole picture. So I'm looking at free cortisol, total cortisol, right? Is my free, high or low? Is my total cortisol high or low? What's my cortisol-to-cortisone ratio? So that's another piece. I'm just telling you how I go through the process. What's my cortisol-to-cortisone ratio? Is a lot of my cortisol being pushed to cortisone? Am I looking at a state of inflammation? Is my cortisone pushing back to cortisol, which would be pushing inflammation higher, right? So are we really having this really high free cortisol level and then the cortisol-to-cortisone ratios increase? And there is a chart, like, a dial, I guess, of the cortisol-to-cortisone ratios. So I'm looking at my free level, my total level, and then my cortisone-to-cortisol ratios. And then I'm also looking at diurnal rhythm, right? What's going on throughout the day? Because I think sometimes, we'll

see low free cortisol and normal total cortisol, and then also the rhythm is normal throughout the day.

So I think it's important to look at all of those things and also consider the symptomatology of the patient. Because lots and lots and lots of times, I have had someone that has this, the typical metabolic pattern where free cortisol is really low and total metabolized cortisol is really high. That more [I] think metabolic insulin resistance. I've had that happen a lot of times and my patient[does] not fit that picture. They're not obese, they don't have any insulin resistance that I can tell, glucometer tracking is normal, [and] glucose is normal. There's just not a lot of blood sugar dysregulation that I can find. So in that case, okay check, I've checked off the metabolic piece. I've made sure that that's not a big factor. Then I'm going to go to, okay, what other stressors are being involved for this person? Have we identified if SIBO is there? Have we identified if heavy metals are there? Have I ruled out that glucocorticoid use is not a factor?

So it's not cut and dried, I don't think, and I typically find using the free cortisol to total cortisol ratios is giving you a hint of what is happening, versus it may be being truly diagnostic in itself. At least that's how I look at these ratios, because I don't think that it is 100 percent of the time, always going to be that perfect representation where this ratio means this is going on. I think the percentage of the time that's correct. But I would definitely say, see what your ratio looks like, go to your reference page, your reference guide, [and] look and see what that ratio might represent. So if, for instance, the same kind of category that we're doing low free, high total. Okay, let's look at metabolic function. Let's look at glucose metabolism and insulin resistance. If you cross all that off the list, and that's not a driver, then we go down to the next thing. Okay, chronic stress, chronic burden. What's the gut look like? Do they have SIBO? Do they have heavy metals? Have you ruled out glucocorticoid use? And so on. And I find in my experience that the cortisol ratios are most often a consequence of something else that is going on in the body. So in rare cases, like Cushing's [syndrome] and some of these other more endocrine-mediated disorders, then yes. But those are usually pretty obvious on the DUTCH test, or at least concerning enough to where you're going to do follow-up, serum cortisol testing, or pituitary testing, or adrenal testing, or whatever it might be. So I still think when I see an imbalance and free to total cortisol in whatever direction, if it's not super obvious based [on] other complementary labs that you have, then I still am going through the same process.

What other burden could be contributing to this? I know that in general, inflammation causes this particular pattern. Okay, great. That's really super generalized. As you know, we say inflammation causes everything. But what do you have? What information do you have? Is SIBO present? [Are] heavy metals present? Are nutrient imbalances present? Does this person have a history of chronic fatigue syndrome? Are they already diagnosed with that? So I think that it really is just a matter of going through and crossing things off of the list when you see a certain pattern. So I think there's the piece of what is this pattern telling me? Is it really clear and/or is it at least pointing me in a direction for investigation? This is typically seen in hypothyroidism. What do their thyroid labs look like? Thyroid labs look great, let's say, for

instance. Okay, are they not on any licorice supplementation? Double-check. Make sure that they're not on some sort of adaptogen that has licorice in it that they don't know about.

Do they have markers of inflammation in their serum markers? Is there any other reason why they might have this particular pattern? And if you go through all of those things, and you still don't know the answer, well, then usually, the explanation I have and I explain to people is most of the time, I see cortisol imbalance as a consequence of a burden or a consequence of something else that's going on the body. It's usually not the driver; it's usually impacted by that burden. So my goal is to still figure out what's the underlying imbalance, what's the underlying driver of why the adrenals and the cortisol is responding in this particular way. So that's one piece of that. Can I give you information about what's the primary issue or where to go or what direction to go in? And then the other piece, I think, is can you still intervene? Is there still a place to help that person because even if this cortisol imbalance is a result of something else, they're still probably very much symptomatic or being impacted by those levels and those imbalances. So that for me is question number two.

Can I intervene? Can I provide some adaptogens? Is this a chronic fatigue issue? Is this a mom or a parent that has four kids, really overworked, super stressed, and that's what I'm seeing on the DUTCH test? Does that tell me that maybe I need to sit down and focus a little bit more on them with stress management, or prioritizing or figuring out what's going on? So I hope this is helpful and I'm not rambling, but it is a rather nuanced way of working through the DUTCH test. At least that's how I work through it. What are the patterns? Do they tell me anything I don't already know? Do they point you in a direction of somewhere you're not already looking for? And then, if that's the case, great. You now have this baseline that you can then compare to. And then is there an opportunity to intervene if those imbalances are off? That person is very symptomatic, melatonin is super low, cortisol is way off, they're at their wits' end, whatever it might be. So I usually use those patterns, like I said, as ways to guide me toward something. And a handful of times, the pattern is just way off. I don't know why that pattern is there. Nothing really fits what they have. And then at that point, I say, "Okay, I'm going to chalk this up to a consequence of something that's going on in the body. I'm going to see if I can help you in any way I can, whether that's an adaptogen, or stress management techniques, or whatever it might be." And then we return back and keep checking in and seeing if those levels normalize.

I hope that helped, Theresa. Okay, good. Because I didn't want to spend too much time talking about the difference between free and total cortisol, because I think you can just read about that. But I really encourage you, if you don't already have, I'm sure you have cheat sheets. But the DUTCH test, for me, I need a cheat sheet. I still use it on a regular basis just making sure that I'm wrapping my brain around the different patterns and what I can use in each individual circumstance and situation. So I have a 25-page Word document just for the DUTCH test. Different notes, different things that I have done that I have seen that have worked. And as you start to work through the hormone, the sex hormone section of that, you're going to get even more information about what all that can mean.

All right, I'll give everyone a little more time [to] see if anyone has any other questions. I think we're just getting started on serum testing, if I remember that correctly, or you are well into it. I'm trying to remember what week we're on. Yeah, let's give them a little more time; we'll see. I also want to say that you also are welcome to bring case studies to these Q&As. So if you have patients you're working with, situations that you're not sure how to proceed [with] or just stuck on, you're also welcome to bring those cases here, and we can talk about them just for future reference. I know sometimes that's really helpful, just to have another set of eyes on a case.

Catherine: Looks like we had one question come in from Stephanie. Stephanie says, "How do we know if patients are getting enough glycine in their diets? [I'm] thinking of patients who are focused on lean cuts of meat only."

That's a good question. Let me see. I am mostly, I mean, probably a nutritionist. One of our nutritionists would be able to answer this [question] so much better than me. But I think that there's the possibility of tracking food. So I don't know if Cronometer or other food tracker apps might have glycine. I know that that's not perfect, because we're actually not testing for glycine levels. But we are getting some sort of an assessment of ratios. And so I think that Cronometer might report glycine levels. So you'll have to, I apologize again, if I don't know for sure. But that might be one option is just assessment of intake, right? So how much does it appear that they're eating? Or you may have a really good sense just based [on] their diet of what their glycine intake is. I think also that, gosh, I'm trying to think if the amino acid profile through the Genova might have [it]. Oh gosh, I'm trying to remember. I think that you would be able to get some methionine:glycine ratios from an amino acid profile. I think Genova does that and there's probably more, but that's the one I'm familiar with. So if you wanted to really for sure find out, oh yeah, the Genova ion profile with amino acids, that's one way to find out. I think methionine:glycine ratio. That's an expensive way probably, if that's your only question. But I guess I would probably say that if you don't see a lot of glycine being taken in through diet, and you assume that the ratios of methionine to glycine are off just based [on] diet intake, then I would say it's probably little harm to help boost glycine intake.

Again, without testing, that might be okay, I think. Homocysteine, kind of an indirect marker. We know more rightful aid and other more integral nutrients in the methylation process, but glycine is part of that. So I think that on occasion, I'll have someone that has elevated homocysteine and they're on [vitamin] B12 and folate and the levels are still high. And that's the point where I started to think, what other nutrients are important in this process? And we'll then try to support those food nutrients that way, and then retest homocysteine and see if I'm able to identify some of the smaller, less known nutrients that are important in the methylation process. So I hope that helps answer your question, because I'm not sure that they're, and I just may not know about it. I don't know that there's a quick and easy way to assess methionine:glycine ratios other than doing the amino acid profile. But if you do look at Cronometer and it's there, then you might be able to get a sense.

If you're just seeing, if they're putting in their food, it's not perfect, but I think it gives you at least enough of an idea of being able to figure out if their intake is off. And if you see that the ratios are off just based [on] the dietary log or journal, then maybe that gives you enough evidence and enough umph to push the glycine a bit. I think it's, like I said, low risk if they're open to it. Homocysteine is an indirect marker that's difficult to use for glycine, but [it] could maybe be reason enough to push glycine. But yeah, I think [the] amino acid profile is probably the best way to really assess the intake without empirically adding more and supporting foods that are high in glycine content.

Catherine: (Inaudible 29:44)

Tracey O'Shea: Yeah, go ahead.

Catherine: If you're ready for the next one, we can jump into another [one] from Teresa, who says "Have you had patients who might need methylation support but are reactive to any methyl forms of vitamins? If so, how do you work with this, and is there an understanding of the cause for the reactivity?"

Good question. So yes, we do have patients that are pretty sensitive to methylated forms of vitamins when we're trying to support methylation. For me, I will usually do either really low doses of the methyl forms of vitamins, like micro dosing, so liquid tinctures usually. And so that's sometimes where I'll start. It just depends on how low they are, like how low their folate is, or their [vitamin] B12, or what it is, in particular that I'm trying to target in the methylation pathway. But my typical first step would either be really low doses. Let's see, I'm just trying to think, like 25 microgram doses. We're talking tincture liquid versions of B12, or folate. I use those in my pediatric methylation protocols already. So I'm using lower doses, or I may go to unmethylated forms. I think that's the right term. But forms of B12 and folate that are not methylated.

So I might switch to the hydroxy form, or folinic acid because I think that depending on what's driving the impairment and methylation, yes, ideally, the methylated form gets right to the point, and it bypasses all the stuff that we're worried about is causing kinks in the system. But again, because of that intolerance, which I also don't know, to be honest, what the suspicion is for intolerance of methylated forms of vitamins. I've come across a couple [of] different things and suspicions with connections between poor methylation and histamine intolerance. I've come across suspicions of different genetic variants that make it difficult to methylate, or to tolerate methylated vitamins and nutrients. It's honestly not something that I have a lot of familiarity with, or have done a lot of research on it. Because I think for me, it doesn't really change significantly what I'm doing or change my route or my path.

Because impaired methylation is still the end, the downstream impact of that. And my goal is to still experiment and try to figure out where in that methylation process things are getting messed up. Is it lack of nutrients, like lack of intake? Is it metabolism of those or utilization of

the nutrient? Or is there something else, like a burden that is getting in the way. I think that I would say most of the time, I find that I can get patients up on dose if I go really slowly and we're also working throughout that process of removing burdens. So whether that''s gut infections, or heavy metals or environmental toxins, or whatever it might be, I usually am able to get up on the dose of either methyl forms of the vitamin or unmethylated forms of that vitamin. And I'm just taking my time, being patient and going slow.

Other options, like we were alluding to previously, is, if you're doing a full methylation profile like from Genova or HDRI, you may get a little bit more insight into exactly where in the methylation process things are breaking down, and that may give you a little bit more help in trying to decide [at] what point in the methylation process to intervene. So that's one possibility, is trying to target more specifically where to start. Or, like I was saying before, try some of these other nutrients first. So making sure the choline levels are adequate, creatine, glycine, just going that route. Riboflavin, just [make] sure those other nutrients that do support methylation are nice and adequate first; see if that helps with methylation labs or status or however you're monitoring that. An alternative option, too, is, if you don't have a good sense that it's for sure a [vitamin] B12 or folate deficiency, you could always try other nutrients first, as a way. Chris Masterjohn has a lot of information on that and a lot of work that he's published. So, to be honest, that's what we're using, what I'm mostly using, as a way to support methylation with these less known nutrients that don't get as much praise as B12 and folate.

But again, just to reference, folinic acid is something that I use. Hydroxo B12, (Optlipo? 35:55) folate. I'm just trying to think if I have any other recommendations for you. Yeah, I think those are the ones like Seeking Health brand and some other brands. But anyway, those are some of the ones that I'll use in my pediatric protocol if I'm trying to go up low dose, or if I'm trying to, I'm just not sure how they're going to tolerate the methyl forms. And then liquid, obviously. I think that that's probably pretty self-explanatory so that you can titrate up or down or back if you need. I'm trying to think if I'm missing anything that I can offer. And that's probably it.

Again, you might search through Chris Masterjohn's stuff a little bit. He may have a little bit more information or suggestions or guidance on people who are reactive or sensitive to methyl forms of vitamins. To be honest, that's usually where I go if I'm trying to find nutrient-related help or questions. So I hope that helps a little bit.

All right. So glad that we're getting questions today. Last month, there [weren't] really many. So it's nice to just have a little bit of dialogue with everyone. [I'll] give a little bit more time here. I know it takes a minute to type out questions. I want to make sure everyone's had an opportunity if they have questions that I can answer for them. All right, well, I see if no one else has any other questions for me, I think we'll go ahead and end the session and give everyone 20 minutes of your life and time back out of this live session. So again, if you have questions as you're going through the material, you can send me email questions. I don't get very many with

this cohort. So I just want to make sure that everyone is feeling supported and knows where to go and knows how to find that.

But you can submit questions at any time to me and I will answer them as you send them to me. So just a reminder that that does exist and we do have that as an option while you're going through the program. So other than that, thank you so much. Have a great rest of your day, and we'll talk to you soon.

Catherine: Thank you, all.