Phenylalanine: The Forgotten Amino Acid for Focus and Mood Transcript

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Why Phenylalanine Affects People Differently

I've heard from a couple of friends that they took the amino acid fennel alanine and one friend said it really helped them with their mood. They felt happier.

They felt more awake during the day. And another friend said that it actually made them feel a little bit maybe too amped up, too excited, maybe a little bit jittery. Why would this happen with the same amino acid between the same type of people but having two different responses?

What Phenylalanine Is and How Itu2019s Absorbed

And I think that's a great place to start. Hey, it's Dr. A. On this channel, I answer your questions about health, health care, and all things integrative medicine. I've been doing this a long time. Been involved in teaching, research, and writing in the integrative naturopathic community for three decades and been doing clinical medicine in that area for a long time. So the first thing is fennyl alanine is an amino acid and so when you take a single amino acid it does not need to be digested and to be absorbed it's absorbed as a single amino acid meaning what you put in your mouth as long as it comes out of the capsule or the tablet will go into your bloodstream because you have transporters for amino acids that take them right from your GI tract put them through the columnar cells of the GI tract and into your blood. So therapeutically a single amino acid is easier to notice changes with than say amino acids that might come from say a big protein. So to break down why would fennel alanine in two humans who are roughly the same age and all of that business have two different outcomes.

First we want to look at what does fennyl alanine normally do in the body.

Phenylalanineu2019s Role in Neurotransmitters

Well the first thing is fennyl alanine does a number of different things in the body. We use amino acids as potentially the structure structural backbone of certain enzyme systems and we make peptides out of them and peptides make proteins and there's a bunch of things that you know an amino acid will do. But then fennel alanine is also in addition to all of that other stuff a biogenic or a neurogenic amine meaning that it works in the nervous system to do something.

So a neurogenic or biogenic amine is an amino acid that's going to do something in the neurological system usually contribute to the formation of other neurotransmitters.

So if we look at phenol alanine where does it go in the neurological picture which is why you would feel differently for the most part.

Dopamine, Norepinephrine, and Adrenaline Explained

So phenol alanine is upstream from two usually excitatory neurotransmitters called dopamine and norepinephrine. It also [clears throat] happens to be upstream from the end of that picture of dopamine norepinephrine.

The final part peripherally in the body is epinephrine or adrenaline you might have heard it called. So phenol alanine is one of the amino acids that can give rise to the formation of excitatory neurotransmitters. Now, like I said, the majority of stuff made in the brain is going to be dopamine or norepinephrine.

And then your adrenal glands, the adrenal medela, might use it to make a little bit of norepinephrine and dopamine and a lot of epinephrine because there's different enzyme systems in the adrenal glands.

Why Phenylalanine Can Cause Jitters or Anxiety

So one reason that person number two might have felt a little jittery or a little over amped up or over caffeinated sometimes patients will call it is that maybe in the peripheral tissues the peripheral neurological tissues there's a subcategory called chromophin tissue which is what your adrenal medulla is made out of and if you're very sensitive there and if the enzymes are working really fast and you take a dose of phenol alanine you can prime the formation of the precursors dopamine or epinephrine, but then epinephrine or adrenaline in your body. Well, if you've ever been, you know, surprised by something or, you know, you almost get in a car accident, you stop quick and you feel that jolt of energy in your body, that's a quick release of epinephrine in your body. So, if you're sensitive to that, and there's a lot of reasons you could be sensitive to that, then fennel alanine might make you feel just like that, like either nervous or anxious or overcaffeinated or something like that. Now, if it's happening centrally, meaning in the brain, the reason might be the same, except in the brain, we're going to mostly be making from fenol alanine, dopamine, and norepinephrine. Well, in your brain, those are also very excitatory. And so, if you're real sensitive there and you don't need extra dopamine or norepinephrine, you would feel over caffeinated or overstimulated.

Why Phenylalanine Can Improve Mood and Energy

So then you go and you flip the coin on the other side and you say, "Well, how come in the first instance that was mentioned, the person actually felt better? They felt a little happier.

Their mood lifted, all of that sort of stuff." Well, it's because in that person's case, the formation of the dopamine and norepinephrine from the phenol alanine feeding into the enzyme systems helped their brain to sort of lift. the person was probably sensitive in a way that maybe they were slow in making dopamine and norepinephrine.

There can be a lot of reasons for that. But there are people who are sensitive to catakolamine stimulation meaning dopamine norepinephrine and then epinephrine peripherally. And if they're sensitive in the way that their body is looking for catakolamines, they will feel better. They'll feel elevated mood, that sort of thing. If they're sensitive in the way that they don't need anymore or maybe they don't get rid of them as quickly as they should, the catakolamines, dopamine, norepinephrine, or peripherally epinephrine, then you give a precursor like phenol alanine and they will suddenly feel like they drank a pot of coffee and that's because you're making more of the catakolamine hormones and you can't get rid of them.

How Individual Metabolism Changes the Response

So it's all about the kind of neurotransmitters that you need, the kind that you're making with the amino acid and whether you really needed those or not. So this is one reason why when we do amino acid therapies with people, we will ask them to start with lower doses and to test it out.

Safe Dosing and How to Test Your Tolerance

And so for example, if we're going to give somebody phenyl aline, we will usually tell them start with a low dose, 250 to 500 milligrams. take it in the morning cuz you don't want a lot of catakolamines at night time if you're trying to sleep and see how you feel. Some people will say, "I felt nothing from that." And so we'll go up on the dose. Let's say they're having some depression or something like that. Other people will say, "Wow, you know, I got to 500 milligrams and I got shaky and jittery." Well, then in that person who gets shaky and jittery, it's time to not use phenol alanine to move on to some other category of neurotransmitter. But in the person who says, "Nah, I didn't really feel much at 500, but boy, you know, at 1,000 milligrams, I did start to feel actually better, my mood lifted, etc." So, it's all about how your body metabolizes it.

And yes, all humans for the most part, with some, you know, rare genetic exceptions, metabolize fennel alanine in the neurotransmitter setting the same way. So they're always going to go from phenol alanine to tyrrosine intermediates to dopamine to norepinephrine and then epinephrine peripherally. But not every human has the same enzyme capacity to convert the amino acid downstream.

Enzyme Differences and Catecholamine Sensitivity

Sometimes they get stuck somewhere and build up more of one than the other and sometimes they don't have the enzymes in sufficiency to get rid of the say catakolamines in this case that are being made and then they feel overdosed by it. So, a lot of it is just a clinical determination and it's why you always start low with dosing things that might turn on a neurotransmitter and you build them up over time. You don't overdo them.

Phenylalanine vs Psychiatric Medication Pathways

Now, you might say, well, is there any analog to this in the world of say psychiatric medications? And indeed there is. When you're looking at psychiatric medications, especially let's say for depression, there are categories that would be what they call catakolamine sensitive depressions, serotonin sensitive depressions and then mixed depressions. Now over time the we've evolved our understanding of the things but those are clinical determinations.

So if you give a pure catakolamine either stimulating or sequestering drug and the person feels better and their depression is better and they're moodless then you can assume that they're catakolamine sensitive or a catakolamine sensitive depression. If you give the next person a catakolamine-l like drug and they're depressed and they just get all jittery and shaky and they can't handle it, then they have a non-catolamine sensitive or maybe a mix type of a depression from a drug point of view.

How to Know If Phenylalanine Is Right for You

Well, with phenolanine, you're just feeding that one pathway being the catakolamines centrally and epinephrine peripherally. So, if the body is needing it, great. Going to make you feel better. If the body either can't metabolize it away or doesn't, you know, process it in the right way, you feel overdosed, then you just shouldn't take that anymore. All right, I hope this answers the questions.

Final Takeaways and Clinical Guidance

Really appreciate everybody who's subscribed. Love the community and love all the questions and comments we get. Please do subscribe. Consider, you know, have hitting a like, do the share and comment as you can. And I will see you guys on the next video.