Poor Sleep & Inflammation? GLYCINE May Be the Missing Amino Acid Transcript

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The Many Roles of Glycine in the Body

So, let's break down the major areas So, let's break down the major areas where glycine is going to work in your where glycine is going to work in your body.

First off, glycine's job is it's an First off, glycine's job is it's an amino acid, and amino acids are what we amino acid, and amino acids are what we make peptides out of, and then peptides make peptides out of, and then peptides make proteins. And amino acids can be make proteins. And amino acids can be used for certain peptide or amino used for certain peptide or amino substances like enzymes, substances like enzymes, neurotransmitters, all sorts of things neurotransmitters, all sorts of things that amino acids can do. They also, of that amino acids can do. They also, of course, can be involved in the course, can be involved in the structural portions of our body and structural portions of our body and other particular types of pathway other particular types of pathway supports that they do. Glycine is one of supports that they do. Glycine is one of those where it has a lot of places it those where it has a lot of places it plugs in into human biochemistry and plugs in into human biochemistry and human physiology. And this is why people human physiology.

How Glycine Calms the Nervous System

And this is why people will potentially use it therapeutically will potentially use it therapeutically for a lot of different types of things. for a lot of different types of things.

So, one of the things that glycine will So, one of the things that glycine will do is to be what we would call a do is to be what we would call a chloride channel operator. And what that chloride channel operator. And what that means is we have these mineral or ion means is we have these mineral or ion channels on our cell membranes, and that channels on our cell membranes, and that could be in your peripheral body, or could be in your peripheral body, or that could be in your brain. And one of that could be in your brain. And one of the things that glycine can do is to the things that glycine can do is to open a chloride channel. Now, normally, open a chloride channel. Now, normally, when we have, say, a nerve cell, when we have, say, a nerve cell, neurotransmitter pathways in the brain, neurotransmitter pathways in the brain, muscle cells, etc., we are leaving the muscle cells, etc., we are leaving the chloride channels closed so that we can chloride channels closed so that we can move the sodium and potassium and move the sodium and potassium and calcium and magnesium back and forth to calcium and magnesium back and forth to create an action potential to create create an action potential to create electrical energy. If I open up a electrical energy. If I open up a chloride channel, what happens is I chloride channel, what happens is I dampen or lower the action potential dampen or lower the action potential activity. What happens with glycine is activity. What happens with glycine is it's used by the body to kind of put the it's used by the body to kind of put the brakes on the action potential or the brakes on the action potential or the electrical energy activity that's going electrical energy activity that's going on. And so, if everything's going along on. And so, if everything's going along with the chloride channel closed, we may with the chloride channel closed, we may get our action potential, our electrical get our action potential, our electrical energy, and we get a nerve impulse, or a energy, and we get a nerve impulse, or a brain impulse, or heart, or skeletal brain impulse, or heart, or skeletal muscle, or something like that. If I muscle, or something like that. If I suddenly open the chloride channels, I suddenly open the chloride channels, I will lower, or even shut off, will lower, or even shut off, potentially, those action potentials, potentially, those action potentials, those electrical impulses. So, in our those electrical impulses.

Using Glycine for Sleep and Muscle Relaxation

So, in our central nervous system, in the brain, central nervous system, in the brain, glycine, by opening a chloride channel, glycine, by opening a chloride channel, can actually calm down the neurological can actually calm down the neurological impulses. So, it's used as a way to slow impulses. So, it's used as a way to slow neurological activity and calm the brain neurological activity and calm the brain down. So, what is one downstream effect down. So, what is one downstream effect of opening a chloride channel? Usually, of opening a chloride channel? Usually,

it will be helpful with sleep, or it will be helpful with sleep, or calming down, sometimes helpful with calming down, sometimes helpful with hyper-irritable muscles, things of that hyper-irritable muscles, things of that nature. So, glycine can be used nature. So, glycine can be used therapeutically to help with improved therapeutically to help with improved sleep, help with relaxing tight muscles, sleep, help with relaxing tight muscles, things like that, where we want to calm things like that, where we want to calm down the electrical impulses, electrical down the electrical impulses, electrical activity that goes on. Now, other things activity that goes on.

Why Some People Feel More Alert on Glycine

Now, other things to consider in the neighborhood, in the to consider in the neighborhood, in the chloride channel operation, is glycine chloride channel operation, is glycine doesn't just work at chloride channels.

doesn't just work at chloride channels. So, one caveat is some people will have So, one caveat is some people will have a little excitation, the opposite from a little excitation, the opposite from glycine. And you think, well, you just glycine. And you think, well, you just described to us how glycine opens the described to us how glycine opens the chloride channels and calms everything chloride channels and calms everything down. Yes, does that in one part of the down. Yes, does that in one part of the nervous system, over in the other part nervous system, over in the other part of the nervous system, at a excitatory of the nervous system, at a excitatory receptor complex, it actually is what receptor complex, it actually is what they call an agonist, it turns it on.

they call an agonist, it turns it on. Now, most people are very insensitive to Now, most people are very insensitive to that activity, but some people's that activity, but some people's genotypes literally make one receptor genotypes literally make one receptor category more sensitive than the other.

category more sensitive than the other. So, I always tell people, glycine So, I always tell people, glycine generally, let's say you're going to put generally, let's say you're going to put it in your tea, it's sweet, it's it in your tea, it's sweet, it's actually kind of nice. So, you're going actually kind of nice. So, you're going to put it in your tea at night to help to put it in your tea at night to help you go to sleep at night, try a small you go to sleep at night, try a small amount first. You might try a few amount first. You might try a few hundred milligrams or something like hundred milligrams or something like that, and just make sure it doesn't make that, and just make sure it doesn't make you like wake up. If it makes you wake you like wake up. If it makes you wake up, it's nothing wrong with that. It up, it's nothing wrong with that. It just means your body is more sensitive just means your body is more sensitive to the excitatory part. By and large, to the excitatory part. By and large, the majority of humans, it's very the majority of humans, it's very calming, but some people have that calming, but some people have that excitatory part. And then just you would excitatory part.

Glycine, Glutathione, and Antioxidant Support

And then just you would just use other things and not use just use other things and not use glycine. The next thing is that glycine glycine. The next thing is that glycine gets involved both directly and gets involved both directly and indirectly in the world of the indirectly in the world of the immune-inflammatory immune-inflammatory immune-inflammatory system. So, how would glycine directly system. So, how would glycine directly get involved in the immune-inflammatory get involved in the immune-inflammatory system? Well, the antioxidant, one of system? Well, the antioxidant, one of our primary endogenous antioxidants, our primary endogenous antioxidants, glutathione, is 1/3 roughly glycine. So, glutathione, is 1/3 roughly glycine. So, glutathione is a tripeptide, glycine is glutathione is a tripeptide, glycine is one of the peptides in there, one of the one of the peptides in there, one of the amino acids. So, glycine helps to feed amino acids. So, glycine helps to feed the system that creates glutathione.

the system that creates glutathione. You've heard of supplement probably You've heard of supplement probably called glynac. The gly is glycine. called glynac. The gly is glycine.

Glycine and N-acetylcysteine as a Glycine and N-acetylcysteine as a supplement help to feed. So, glycine is supplement help to feed. So, glycine is a portion of glutathione. That's a a portion of glutathione.

How Glycine Modulates Inflammation

That's a direct way into the direct way into the antioxidant-inflammatory antioxidant-inflammatory antioxidant-inflammatory realm. On the other side though, without realm. On the other side though, without involving itself in glutathione, glycine involving itself in glutathione, glycine also will modulate immune activity. So, also will modulate immune activity. So, if we have too low levels of glycine, if we have too low levels of glycine, our immune activity may be unmodulated our immune activity may be unmodulated or hyperreactive, which of course is not or hyperreactive, which of course is not good. And if we have a lot of glycine, good. And if we have a lot of glycine, it may satisfy those needs. So, how does it may satisfy those needs. So, how does glycine without messing with glutathione glycine without messing with glutathione do this immunomodulatory stuff? Well, it do this immunomodulatory stuff? Well, it helps to modulate a lot of what we call helps to modulate a lot of what we call our pro-inflammatory cytokines, or the our pro-inflammatory cytokines, or the chemical messengers that create chemical messengers that create inflammation. Now, a lot of people will inflammation. Now, a lot of people will listen and hear about inflammation and listen and hear about inflammation and say, "Well, wouldn't we all be healthier say, "Well, wouldn't we all be healthier if we just shut all inflammation off?" if we just shut all inflammation off?" And the answer is no, you'd actually be And the answer is no, you'd actually be dead because we need inflammation for dead because we need inflammation for certain things like triggering an immune certain things like triggering an immune response and stuff. The problem comes in response and stuff. The problem comes in modern life and in modern living where modern life and in modern living where we're in, you know, toxic environments we're in, you know, toxic environments and under a lot of stress and all that, and under a lot of stress and all that, where we don't balance, we don't where we don't balance, we don't modulate the pro- and anti-inflammatory modulate the pro- and anti-inflammatory parts of the immune system. So, one of parts of the immune system. So, one of the many things that glycine can do is the many things that glycine can do is to help by modulating some of the to help by modulating some of the pro-inflammatory chemistry, like tumor pro-inflammatory chemistry, like tumor necrosis factor and certain interleukins necrosis factor and certain interleukins and NF-kappa-B and things, to help to and NF-kappa-B and things, to help to not shut off the immune response, but to not shut off the immune response, but to keep it modulated. So, I get an immune keep it modulated. So, I get an immune response when I need it and then I shut response when I need it and then I shut it off when I don't need it. So, being it off when I don't need it. So, being an immunomodulatory substance is the an immunomodulatory substance is the other way. So, indirectly through the other way. So, indirectly through the formation of glutathione by being a formation of glutathione by being a third of the glutathione molecule, third of the glutathione molecule, glycine helps. And then directly as an glycine helps.

Glycine and Phase Two Detoxification

And then directly as an immunomodulator to pro-inflammatory immunomodulator to pro-inflammatory cytokines, glycine helps with this cytokines, glycine helps with this immunomodulatory or inflammation immunomodulatory or inflammation support. And then the final part, it's support. And then the final part, it's involved in what we call phase two involved in what we call phase two detoxification. So, you have multiple detoxification. So, you have multiple phases of getting rid of toxins from phases of getting rid of toxins from your body. Your body it deals with your body. Your body it deals with toxins every day and it has natural ways toxins every day and it has natural ways that we have developed over the eons to that we have developed over the eons to get rid of toxins. Phase one is a get rid of toxins. Phase one is a particular type of reaction that particular type of reaction that generally doesn't involve glycine. Phase generally doesn't involve glycine. Phase two is where things like glycine and two is where things like glycine and glutathione work. And you might say, glutathione work. And you might say, "Well, I heard you say that glycine is "Well, I heard you say that glycine is 1/3 of glutathione, so is that why 1/3 of glutathione, so is that why glycine's important for phase two?" glycine's important for phase two?" Well, that's one of the reasons, but Well, that's one of the reasons, but also glycine has its own phase two also glycine has its own phase two pathway where it helps in the pathway where it helps in the conjugation steps, which is a phase two conjugation steps, which is a phase two step, where we're going to get rid of step, where we're going to get rid of these intermediates that our body does these intermediates that our body does not want and get them out of the body, not want and get them out of the body, usually through the urinary system or usually through the urinary system or maybe out through the stool. So, glycine maybe out through the stool. So, glycine is also directly involved in phase two is also directly involved in phase two detoxification. Well, I hope this helps detoxification. Well, I hope this helps to answer some of those confusing to answer some of those confusing questions about the purposes of glycine questions

about the purposes of glycine in the body. We certainly didn't talk in the body. We certainly didn't talk about all of them, but I tried to hit on about all of them, but I tried to hit on the ones that people had asked the most the ones that people had asked the most questions about. We love having you guys questions about. We love having you guys on here. Thanks to everybody in the on here. Thanks to everybody in the community. Please do subscribe, like, community. Please do subscribe, like, share, all of the above. We appreciate share, all of the above. We appreciate all of you, and I'll see you all on the all of you, and I'll see you all on the