Can Methylene Blue Really Boost Brain Energy? What Research Shows Transcript

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What Methylene Blue Does in the Body

This also uses in the palliative or This also uses in the palliative or helping with symptoms part of cancer helping with symptoms part of cancer care.

Welcome to my YouTube channel. I'm Dr. Welcome to my YouTube channel. I'm Dr. A. How can we use methylene blue, an old A. How can we use methylene blue, an old drug, for new uses? And what are those drug, for new uses? And what are those uses? Methylene blue is one of the uses? Methylene blue is one of the oldest, or if not the oldest, synthetic oldest, or if not the oldest, synthetic medication. So, have you heard of medication. So, have you heard of methylene blue? But how can a very old methylene blue? But how can a very old drug like this suddenly become something drug like this suddenly become something that we use for totally different and that we use for totally different and new purposes? So, let's dive into this new purposes? So, let's dive into this methylene blue discussion. And I've methylene blue discussion. And I've divided this up into kind of the top 10 divided this up into kind of the top 10 factors to consider around this old drug factors to consider around this old drug that is being used in a new way. It is a that is being used in a new way. It is a drug, so it is done by prescription, and drug, so it is done by prescription, and that is a good thing. So, the first that is a good thing.

How Methylene Blue Boosts Mitochondrial Energy

So, the first thing that you want to remember is thing that you want to remember is low-dose methylene blue. It doesn't take low-dose methylene blue. It doesn't take very much. It's an outside, meaning it's very much. It's an outside, meaning it's not part of our body. Methylene blue not part of our body. Methylene blue doesn't exist in our body. But the big doesn't exist in our body. But the big thing that it does is it can go to your thing that it does is it can go to your mitochondria, which help you make the mitochondria, which help you make the energy in your body, and it can be an energy in your body, and it can be an accessory electron carrier, meaning accessory electron carrier, meaning beyond where your nutrients go into your beyond where your nutrients go into your body, and we take certain things like body, and we take certain things like the vitamin B3 nicotinamide, turn it the vitamin B3 nicotinamide, turn it into some, you know, kind of advanced into some, you know, kind of advanced nicotinamides, and help that run through nicotinamides, and help that run through the mitochondria to make energy by the mitochondria to make energy by moving electrons around. Methylene blue moving electrons around. Methylene blue can come in in support of that and can come in in support of that and actually add in more electron carrying actually add in more electron carrying capacity. More electron carrying capacity. More electron carrying capacity equals more energy. Now, you capacity equals more energy. Now, you might be saying, "Oh, so it's just going might be saying, "Oh, so it's just going to jack up my energy?" Well, wouldn't to jack up my energy?" Well, wouldn't caffeine do that or something, right?

caffeine do that or something, right? Well, it's not just for improving Well, it's not just for improving energy. When we talk about improving energy. When we talk about improving energy in the mitochondria, what you energy in the mitochondria, what you need to remember is most disorder and need to remember is most disorder and disease of the cell starts from the disease of the cell starts from the mitochondria and works its way out. Many mitochondria and works its way out. Many disorders and diseases are when the disorders and diseases are when the mitochondria slow down or get broken and mitochondria slow down or get broken and they can't produce energy for the cell, they can't produce energy for the cell, so the cell gets broken and slows down so the cell gets broken and slows down and then often it goes away. So, the and then often it goes away. So, the methylene blue helping with the energy methylene blue helping with the energy is actually helping at the base level is actually helping at the base level for many chronic illnesses, uh certain for many chronic illnesses, uh certain conditions, and cancer, other things of conditions, and cancer, other things of that nature. The other thing which is that nature. The other thing which is really interesting is is that methylene really interesting is is that methylene blue adds to your natural processes that blue adds to your natural processes that make the electron transport system work.

make the electron transport system work. Methylene blue actually adds on to it. Methylene blue actually adds on to

it. It's not just priming it. It actually It's not just priming it. It actually adds extra electron support to go adds extra electron support to go through the mitochondria. So, it's sort through the mitochondria. So, it's sort of double energy producing. It's been of double energy producing.

Methylene Blue for Brain Injury and Neurodegeneration

It's been looked at a lot in a number of areas. looked at a lot in a number of areas. One big area is in the neurology area One big area is in the neurology area because trying to get the brain repaired because trying to get the brain repaired after certain types of diseases and after certain types of diseases and disorders is quite a big problem and the disorders is quite a big problem and the brain has some of the most dense areas brain has some of the most dense areas of mitochondria in the body. So, the of mitochondria in the body. So, the first paper was targeting mitochondrial first paper was targeting mitochondrial dysfunction and central nervous system dysfunction and central nervous system injury using methylene blue. If you have injury using methylene blue. If you have a high density mitochondrial tissue like a high density mitochondrial tissue like the brain, you're going to have a high the brain, you're going to have a high density need for repair there. So, density need for repair there. So, they've actually done studies both with they've actually done studies both with animals and humans in trying to target animals and humans in trying to target injured brains and get them back online.

injured brains and get them back online. And often do we hear about traumatic And often do we hear about traumatic brain injury, post-COVID illness, brain brain injury, post-COVID illness, brain fog, chronic headaches, all these other fog, chronic headaches, all these other things, things of that nature. Also, things, things of that nature. Also, they've looked at the actual thought they've looked at the actual thought processes and that what they call processes and that what they call connectivity in the brain. So, another connectivity in the brain. So, another paper talks about methylene blue through paper talks about methylene blue through its effect in the mitochondria helping its effect in the mitochondria helping to modulate the functional connectivity to modulate the functional connectivity of brain tissue. And this this looks at of brain tissue. And this this looks at a lot of things such as not only our a lot of things such as not only our processing and executive function, but processing and executive function, but also things like memory problems and also things like memory problems and dementia, potentials for use in those dementia, potentials for use in those areas. So, again, a really not uncommon areas. So, again, a really not uncommon area of dysfunction that methylene blue area of dysfunction that methylene blue blue, this very old drug for new blue, this very old drug for new purposes, may have a role in. Another purposes, may have a role in. Another one related to all that is actual one related to all that is actual looking at in science at protection from looking at in science at protection from neurodegeneration. Well, we all can neurodegeneration. Well, we all can undergo neurodegeneration. We all do it undergo neurodegeneration. We all do it at a certain point, but it can be sped at a certain point, but it can be sped up by underlying genetic disorders, up by underlying genetic disorders, traumatic brain injuries, chronic brain traumatic brain injuries, chronic brain trauma, chronic chemical traumas, trauma, chronic chemical traumas, infectious traumas. In the neurology infectious traumas. In the neurology literature, they talk about COVID being literature, they talk about COVID being like a traumatic brain injury. So, like a traumatic brain injury. So, again, you can have infectious traumas, again, you can have infectious traumas, et cetera. And they there are papers et cetera. And they there are papers about the use of methylene blue with about the use of methylene blue with neurodegenerative conditions. There's neurodegenerative conditions. There's also just some speculative papers about also just some speculative papers about helping us with healthy aging. But, it helping us with healthy aging. But, it would kind of make sense if the sum would kind of make sense if the sum total of our health is largely total of our health is largely predicated on whether all of our cells predicated on whether all of our cells have the right amount of electron have the right amount of electron transfer and the right amount of transfer and the right amount of mitochondrial function that makes our mitochondrial function that makes our cells healthier, the healthier all that cells healthier, the healthier all that is, the healthier we are going to be.

is, the healthier we are going to be.

Methylene Blue for Chronic Lyme and Infections

And I think that's where they're going And I think that's where they're going in that particular paper. And got a in that particular paper. And got a paper in there that's looking at paper in there that's looking at specifically tick-borne diseases. We specifically tick-borne diseases. We hear about Lyme disease, but there's a hear about Lyme

disease, but there's a lot of other diseases related and lot of other diseases related and methylene blue. It's used a lot in the methylene blue. It's used a lot in the chronic Lyme community, et cetera. How's chronic Lyme community, et cetera. How's that connect? It connects on a number of that connect? It connects on a number of levels. One is there's a lot of energy levels. One is there's a lot of energy depletion, but also damage to the depletion, but also damage to the mitochondria that occur when you have a mitochondria that occur when you have a chronic infectious disease such as, you chronic infectious disease such as, you know, Lyme or Epstein-Barr any of the know, Lyme or Epstein-Barr any of the other chronic infections that people other chronic infections that people get. So, you get damage eventually to get. So, you get damage eventually to the electron transport chain in the the electron transport chain in the mitochondria and our and our energy.

mitochondria and our and our energy. But, the other side of it is our immune But, the other side of it is our immune system uses a lot of mitochondrial system uses a lot of mitochondrial energy to keep up with stuff. And so energy to keep up with stuff.

Repairing Mitochondrial DNA After Chemotherapy

And so imagine the beating that takes in a imagine the beating that takes in a chronic infectious disease setting. chronic infectious disease setting.

There's also a really cool set of papers There's also a really cool set of papers that I I just presented one of these at that I I just presented one of these at a hospital to the oncology department a hospital to the oncology department looking at use of methylene blue in looking at use of methylene blue in repairing the damage to the repairing the damage to the mitochondrial DNA. So there's specific mitochondrial DNA. So there's specific DNA that help us remake our mitochondria DNA that help us remake our mitochondria after particular type of chemotherapy after particular type of chemotherapy induced injury. One of the problems with induced injury. One of the problems with chemotherapy is that it goes in and it chemotherapy is that it goes in and it might help you with your cancer, but might help you with your cancer, but it's really hard on the rest of your it's really hard on the rest of your body. It might be hard on your heart or body. It might be hard on your heart or your brain or your kidneys or your some your brain or your kidneys or your some other important part of you. In this other important part of you. In this particular type of chemotherapy, it's particular type of chemotherapy, it's actually damaged directly to the actually damaged directly to the mitochondrial DNA. If they get damaged, mitochondrial DNA. If they get damaged, then they can't really form new then they can't really form new mitochondria appropriately. If it's in a mitochondria appropriately. If it's in a sensitive area like say your kidneys, sensitive area like say your kidneys, then you get kidney damage. But the then you get kidney damage. But the kidney damage really starts at the DNA kidney damage really starts at the DNA level. And they've now through modern level. And they've now through modern science found out ways why this happens, science found out ways why this happens, okay? What they're looking at is okay? What they're looking at is methylene blue can actually go in and it methylene blue can actually go in and it can undo the mitochondrial DNA damage.

can undo the mitochondrial DNA damage. Actually turn it off so that the cells Actually turn it off so that the cells have a chance to operate normally and have a chance to operate normally and build normal mitochondria even after an build normal mitochondria even after an insult from particular types of insult from particular types of chemotherapy.

Methylene Blue for Mucositis and Long COVID

This also uses in the chemotherapy. This also uses in the palliative or helping with symptoms part palliative or helping with symptoms part of cancer care. And one of the things of cancer care. And one of the things that's really horrible side effect with that's really horrible side effect with with a lot of chemotherapies, they call with a lot of chemotherapies, they call it mucositis. But it can be anywhere it mucositis. But it can be anywhere from your lips all the way through your from your lips all the way through your digestive tract where you can get digestive tract where you can get swollen, you can get inflamed, it can be swollen, you can get inflamed, it can be very painful. And in certain cases, the very painful. And in certain cases, the pain is so bad you can't eat or drink.

pain is so bad you can't eat or drink. It can be that bad. And so mucositis is It can be that bad. And so mucositis is

always one of those things we're working always one of those things we're working with with cancer patients just to try with with cancer patients just to try and keep it to a minimum or at bay.

and keep it to a minimum or at bay. Well, they looked at treatment of Well, they looked at treatment of mucositis, which you know, there are mucositis, which you know, there are things to calm it down pallatively, but things to calm it down pallatively, but actually to treat it underlying there's actually to treat it underlying there's not as many things, but treatment of not as many things, but treatment of mucositis in pediatric patients and they mucositis in pediatric patients and they actually had very positive results with actually had very positive results with a small trial in in children, so human a small trial in in children, so human trial in children. And then there's more trial in children. And then there's more papers coming out about this and I papers coming out about this and I mentioned it earlier, but repurposing mentioned it earlier, but repurposing methylene blue in the management of methylene blue in the management of COVID-19. If we think about it, among COVID-19. If we think about it, among the many many reasons that SARS-CoV-2 the many many reasons that SARS-CoV-2 COVID-19 creates trouble in the body and COVID-19 creates trouble in the body and creates long COVID and all those bad creates long COVID and all those bad things, a lot of them are because of the things, a lot of them are because of the immunologic dysregulation that that that immunologic dysregulation that that that virus has like many other infections, virus has like many other infections, but SARS-CoV-2 is a little more but SARS-CoV-2 is a little more aggressive in some areas and then that aggressive in some areas and then that immunologic dysregulation beats up on immunologic dysregulation beats up on the cells, beats up on the mitochondria, the cells, beats up on the mitochondria, it takes people some people with long it takes people some people with long COVID a long time to recover. So, COVID a long time to recover. So, they're looking at repurposing methylene they're looking at repurposing methylene blue just like we talked about with all blue just like we talked about with all these other things these other things >> [clears throat] >> [clears throat] >> [clears throat] >> in the setting of COVID and long COVID >> in the setting of COVID and long COVID as well. So, those are just 10 of many as well.

Safety and Working With a Healthcare Provider

So, those are just 10 of many many many areas in science that we're many many areas in science that we're looking at the use of repurposed looking at the use of repurposed methylene blue. Number one, remember it methylene blue. Number one, remember it is a drug, it has to be monitored and is a drug, it has to be monitored and dosed appropriately, should never be dosed appropriately, should never be ordered online and dosed on your own, ordered online and dosed on your own, etc. Number two, you need a healthcare etc. Number two, you need a healthcare provider who is used to using methylene provider who is used to using methylene blue. And blue. And most healthcare providers, everybody's most healthcare providers, everybody's heard of it for its emergency use in heard of it for its emergency use in certain types of blood disorders, but certain types of blood disorders, but you need a provider who's used to using you need a provider who's used to using low-dose methylene blue in these other low-dose methylene blue in these other settings. Doctor A, I'll see you all on settings. Doctor A, I'll see you all on