



Episode 306: Sulforaphane & Estrogen Dominance

December 13, 2023

Sulforaphane Benefits in Estrogen Dominance

David:

Hey everybody. It's David here and I'm with Dr. John Gildea and Dr. Martin Katz, the MD and the PhD of our team. And today we're going to talk about sulforaphane and its benefits in women's health. Specifically because this month of October is breast cancer awareness month. We're not going to talk about breast cancer and sulforaphane but we are going to talk about just want to tell in general.

David:

One of the things that we were emailing around this last week is how sulforaphane benefits with estrogen dominance. And that was a new one for me, because I've said it for years now that I hadn't seen any links between sulforaphane and estrogen, and there are two vapors. So, dive in guys.

Martin Katz:

Let you start with this one for sure.

John Gildea:

So the backdrop for estrogen is, I think the clarifying principle here is that you can never get a consensus on whether it's even good or bad. Because instead of talking about three different estrogens hitting either two different nuclear receptors, just to make it complicated, and then three membrane receptors, you can realize that that estrogen hitting a receptor can be very good. And another form of estrogen hitting another receptor is bad.

John Gildea:

So, that's how you get two camps of... In one camp, estrogen replacement therapy is thought to make you look younger and closer toward the Aphrodite model. And the other camp, so that's the loss of estrogen being bad. And the other camp is the estrogen dependent neoplasm, so breast and ovarian cancer that are known to be dependent on estrogen. And that can't be one to reduce the estrogens that are linked to proliferation. So setting up those two camps is important because the proper functioning of estrogen has to do with tuning the differences between the growth promoting estrogen and the carcinogenic component of estrogen that is able to alter DNA.

John Gildea:

So, sulforaphane is known to block the harmful effects of that bad estrogens in terms of those mechanisms that would drive towards dysfunction. And then in the other area, sulforaphane is known to increase estrogen receptor sensitivity. So it actually is a balancing act that sulforaphane seems to be able to manage when it's very difficult to put anything into the mix and not make the part that is supposed to be good, may also unveil something that could possibly be bad and in the other arm of the spectrum. So sulforaphane is really good at that. And that would be a good place to start with is that it really helps with the good parts and blocks the bad parts. Which seems to be kind of a theme for sulforaphane, to have a smart bomb tendency, that it helps the good and diminishes the bad aspects.

Martin Katz:

It's interesting, sort of like, water's good, right? But if you're in a flood, it's not that great. And if you're in drought, it's fantastic. And so, you're in what's considered to be an estrogen. Doctors think you need more estrogen and they add estrogen to a system that's inflamed and not doing well, that estrogen can

Sulforaphane Benefits in Estrogen Dominance

act in a not so great way. Or if you're doing well they add a little estrogen it could do great. And so all your friends saying, "Hey, you need some more estrogen, I feel great. You get some."

Martin Katz:

And you're like, well, actually I didn't feel that great or promoted something that wasn't so good. Again, not one shoe fits everybody. And so making sure you understand which part of estrogens metabolites you have, how inflamed you are and getting to the bottom of that have a much greater role in promoting your health than taking one specific medication or supplement that's helped somebody, but you really have no idea where you are in that balance. And again, sulforaphane a very smart, intelligent molecule can help you in some ways. But again, that which you're putting on the understanding of the intention to yourself is extremely important.

David:

In the discussion you sent out John, about reference to paper, estrogen dominance. Is there a dumping of estrogen function or what was the mechanism that they were doing out there?

John Gildea:

I don't have that data swimming in my head right now, but the idea matches a lot of papers in the tumor genicity field where you are getting rid of the bad estrogens. You tend to get rid of like 17 beta-estradiols would be in the bad category for sure. So you would get rid of more of that.

John Gildea:

And then in the case of a good estrogen hitting one of the nuclear hormone receptors when you're not inflamed, which is what Martin was talking about recently, is you can increase the sensitivity of that. And one other aspect that we haven't talked about yet is the balancing of androgen and estrogen. Both males and females have both sex hormones, and it's a balancing act between the two. And just for instance, to think of only androgens being good for guys, but libido is connected to androgens in females. So, not necessarily so black and white in that realm is that you really want inflammation down for the good estrogens to promote the beneficial aspects of it.

David:

Great. So what other health benefits specifically for women come to mind as you think of sulfur?

Martin Katz:

Yeah. One, if you look at the average body composition of men versus women, for men it's about 20% or less, for women it's 30% or less. If you look at what happens in fat and what is carried in fat, specifically toxins, sulforaphane can have a massive effect on detox and helping with eliminating detox from the extra 10% that won't carry breast tissue or other.

Martin Katz:

And certainly as you age, we know about sarcopenia after the third, fourth decade of life, you can lose as much as 10% of your muscle mass, which unfortunately is translated fat. And so you're increasingly having this one estrogen effect from this added fatty tissue. There's another place for toxins to be stored. And unfortunately some fat cells can also increase your inflammation. And so if you look at the way, sulforaphane works, it works to decrease toxins, eliminate inflammation, as well as balance out

Sulforaphane Benefits in Estrogen Dominance

oxidative stress that's happening in ourselves. And so it can really help contribute to supporting the body and promoting health.

John Gildea:

And in the case of... during menopause, a lot of the bad aspects of losing estrogen, like we've mentioned is sarcopenia put it in the case of some of the side effects they happened to actually be... a lot of them are dependent on the loss of estrogen hitting the estrogen receptor beta. And so increasing sensitivity to the beta would tend to diminish your symptoms of menopause. So, especially if you combine sulforaphane with adult broccoli that has more of the I3C and DIM in it, you can help diminish some of the side effects of menopause.

David:

And you mentioned... let's just, we don't just have to stick on sulforaphane DIM, which it stands for... I can't remember [diindolylmethane], but it's a derivative from the...

John Gildea:

I3C.

David:

Which is a derivative from another isothiocyanate that's degraded. And so kind of talk her briefly about them and then advice.

John Gildea:

And so in adult broccoli, which we suggest to do, even if you're taking a broccoli, is that works synergistically with sulforaphane. And so when you eat adult broccoli, it has I3C in it and in your stomach under acidic conditions, it is converted to dim. Another kind of sad aspect of, of menopause is the diminished ability to acidify your stomach. And I just associate it with a whole lot of things like B12, lowering of B12.

John Gildea:

And so some of the fatigue that goes along with that has to do with the acidification of your stomach and also the acidification of your stomach has to do with making B12, the intrinsic factor and also closing the pyloric sphincter of the stomach. So they don't get GERD, have a lot of features that follow each other with aging event.

Martin Katz:

Digesting food.

John Gildea:

So, also pretty important so that you get your nutrients, minerals too. Exactly, all sort of all linked together. We don't think that it's a cure all or for anything related to estrogen, but it seems to be pushing in the right direction in a lot of ways.

David:

Sulforaphane Benefits in Estrogen Dominance

Great. So, my mom is 80 and she's shrinking. And so the whole aspect of bone and sulforaphane is another interesting benefit we have been looking for.

John Gildea:

Yes, the balance between osteoblasts and osteoclasts are often determined by the amount of interleukin six that's in your bone marrow. And so, that's a known function of sulforaphane that it blocks a cytokine storm, or IL-6 being one of them, has a very strong benefit both of the beneficial estrogens. And then also the installation dependent transition to osteoclasts, it blocks that too, so very good for bone health for sure.

Martin Katz:

While we're on that, make sure you're exercising. Cause that is a tremendous benefit to the osteoblastic/osteoclastic. So again, osteoblast, the build, osteoclast, cut down or break down the bone. And when you go for a run or you work out you aren't going to rebuild or remodel rather would be another way of saying it, that bone and exercise and very specifically weight bearing exercise so resistance exercises, tremendous for that.

Martin Katz:

But again, if you're inflamed or you're doing a lot of quick breathing, you will increase the acidity within your system, which will drive by carb, excuse me, the alkalinity in the zero system. So you breathe up a lung of CO₂, your alkalinity within the system goes up and your body will compensate because it likes to work in a very specific area of pH. So you'll drive by carve out of the kidneys.

Martin Katz:

And with that will go a lot of metabolites, specifically in bowel and you can break down both. Specifically. So again, an alkaline diet breathing correctly, exercising while getting enough sleep, I think are all incredibly important,

David:

But any other... Could we get any other... Let me talk benefits of sulforaphane that you wanted to touch on.

Martin Katz:

Now I'd love to certainly talk about sulforaphane but also berberine would be another product. So if you look at what we're dealing with clinically, unfortunately with a women we're seeing more and more heart disease. So, it's increasing and also Alzheimer's.

Martin Katz:

And when you look at these disease processes, you've got to also look at how best to support the body. And so there's a molecule called BDNF brain derived neurotropic factor, which you want to support and exercise will certainly do that. Getting enough sleep and certain supplements can help the body support that as well. Sulforaphane being one of them. And berberine, if you look at the way berberine works to decrease or help your body support insulin sensitivity and decrease some of the insulin resistance, that was a mechanism that has been really well demonstrated. And with these diseases becoming more and more prevalent in our society, you really want to think about ways to help support our body's best.

Sulforaphane Benefits in Estrogen Dominance

David:

You mentioned exercise a couple times, so more than a couple of times as we're talking today. And so there's exercise for somebody like me, there's access for somebody like my mother who's 80. What for, let's say our older population of women listening. What would you recommend as far as exercise? My mom is an avid walker. She walks, but she doesn't lift weights and I don't know what her heart rate looks like, but what would you say is sort of a ballpark recommendation?

Martin Katz:

Yeah, so I think there's increasing evidence to suggest that we're... some of the population is certainly over-exercising, some is under exercising and there's a lot of confusing data out there. One of the things that I think is important is to monitor your heart rate and not let your heart rate go too high because unfortunately, exercise is a stress. And so you want to be careful and stressing the body too much or not enough.

Martin Katz:

And so there's some data out there to suggest should probably keep your heart rate up for about 10 minutes and probably in the ballpark of about 180 minus your age. So if you're 80, you're keeping our max heart rate around a hundred as you start building exercise. And there's another acronym called FITT frequency, intensity time and type. And frequency again, ten to 20 minutes. Intensity should be the very last thing you've built as you get stronger as you're in the habit of exercising, whether it's aerobically or resistance and I like both for sure.

Martin Katz:

Once you get the frequency and the time of exercise up... So, maybe you started two, three minutes or even one to two minutes, you go with eventually up to 10, 20 minutes and you started maybe two, three times a week. You build up to five, six times a week because getting old is not for the weak or the people want to run away from it. You got to really embrace it and really want to get old gracefully. So as a lot of people say, it's not just life span, it's life.

David:

Whatever you say, it's... anyway.

Martin Katz:

Quality of life. Not just quantity of life, a lot of different ways of saying that, but we want really both so embracing this and understanding that we do need to be exercised, but go about it slowly, build gradually, keep your heart rate a little lower.

Martin Katz:

So frequency again, about 10 to 20 minutes intensity build last that you can keep your heart rate around 180 minus your age. Again, if you're trying to build for a competition, you can increase a little bit, time and then type it should be both aerobic and resistance. And there's so many great YouTube videos out there. Don't forget about little Pilates or yoga to help stretch those muscles as they get a little tight, make sure you're functional in your movement. You need to go see a physical therapist or a Pilates instructor, a yoga instructor, and have them monitor your functional movement. That can be really good if you're getting on a bike or running, make sure somebody is watching you to make sure you're not

Sulforaphane Benefits in Estrogen Dominance

going to hurt yourself gimping or limping to make sure you're doing it right so you can keep going and enjoy that healthy quality of life that you crave.

John Gildea:

Yeah. I was going to add that. I learned from you that that stretching also prevents the breakdown muscle too. So even the act of stretching itself can prevent muscle breakdown. And then the other one that we talked a lot about is the... anything that's hormetic. So, saunas or hot tubs, you have to make sure that you're healthy enough to do that. But it's interesting that the amount of time and temperature in a sauna correlates with what Martin was saying about heart rate. If you get your heart rate up that seems to be mimicking exercise. So your heart rate goes up and that's the benefit for your cardiovascular system. So, to get into it, there's some passive ways to get you out of your rut and breathing.

Martin Katz:

Breathing. Breath work, I do it to some degree as well. And what John means by hormetic is there are stresses out there for me, one of my favorite, obviously being exercise. But we just did something as part of the Mara labs group. We just did a fast and mimicking diet. And certainly fasting and doing a fasting mimicking diet can, again be a hormetic stress where you're stressing the body, but in a way that encourages a positive effect. So you're getting rid of cells that need to be gotten rid of, but then you're holding on to cells that are doing their job and doing it well. And that's, what's considered a hormetic stress.

David:

It's just, been...

Martin Katz:

It's been three minutes.

David:

This three minute video. This is great. This is exactly what I was hoping would come from it. So a lot of information here and we'll have some, hopefully some explanation or some in the transcripts. This is breast cancer awareness month. And so we're going to have some women's health topics I'll quick read throughout the month. If you have specific things you want to hear about, please send us an email info@broccoleaf.com and we'll try to address them. And thanks so much for your time.

John Gildea:

Thanks guys.

Martin Katz:

Stay healthy.