

Tuesday Minute Transcript

This Week's Topic

Two New Pain & Inflammation Tools

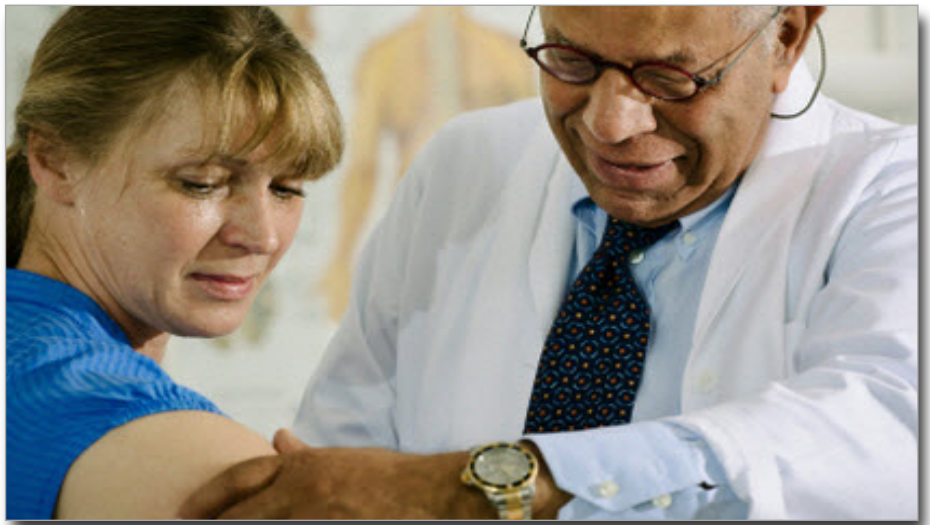


"For chronic patients, those with blood sugar irregularities or those With centralized obesity, these tools can be great to have on hand."

I've got two new tools for your pain and inflammation tool kit. First let's think about some of the tools we already have because as wellness clinicians we have an amazing arsenal to deal with pain and inflammation.

As you know, we can use sources of oils high in gamma-linoleic acid and EPA/DHA to modulate and reduce arachidonic acid and pro-inflammatory PGE2, thromboxanes, and leukotrienes. You may also recall, we can reduce the genetic expression of NF-kappa B with different botanicals and select nutrients like vitamin D, E and selenium.

On previous Tuesday Minutes we've covered how insulin resistance can be a major player in the inflammatory puzzle. However, elevated levels of insulin can cause increases in cytokines



like TNF-alpha and IL-6. Excess insulin can convert the healthy anti-inflammatory part of omega-6 oils called dihomogammalinolenic acid or (DGLA) and shunt it to the dark side, to the proinflammatory arachidonic acid cycle. I say that with tongue in cheek because we actually need some AA. But we need it in balance.

This shunting process occurs via an enzyme called 5-alpha reductase. Excess

insulin fuels or intensifies the expression of 5-alpha reductase. Take for instance your vegetarian patient who wouldn't dream of eating meat or dairy, who only eats the purest of oils and takes their multivitamin/mineral to make sure they have all the co-factors to convert linoleic acid to GLA and finally to DGLA. Instead of completing the path where they will get the anti-inflammatory and immune enhancing effects of PGE1, when excess insulin is present,

DGLA gets shunted to the arachidonic acid cycle. Here's some good news. Sesame seed oil, particularly the lignans sesamin and sesamol, inhibit 5-alpha reductase activity and cause an accumulation of dihomogammalinolenic acid or (DGLA). DGLA is a precursor to the prostaglandin PGE1 series. Patients with pain and inflammation who have insulin resistance may experience significant benefits by adding sesame seed oil to their diet as they gain control over their insulin resistance.

Sesame seed oil has all kinds of interesting properties. It has a variety of liver protective, anti-inflammatory, and immune enhancing benefits. One study showed sesame seed oil protected animals when given toxic amounts of acetaminophen. Another study showed sesame seed oil protected against bacterial infection from known toxins. So my first new addition to your inflammation tool kit is sesame seed oil.

So how do you know if sesame seed oil will help? That's the second tool, a calculation using insulin and glucose to determine insulin resistance. I learned of this interesting calculation from Dr. Carlos Viana, a speaker at the IAACN symposium in 2010. His presentation was "Targeting and Solving Complex Insulin Resistance Based Illness." Here is his calculation: multiply fasting insulin by fasting glucose and then divide that number by 405. If that calculation is greater than 1.8, you have insulin resistance. I have included a chart my colleague Julie Burns shared with me where you can locate insulin on the left axis and glucose on the bottom axis and then find the number quickly. Personally I'm a numbers guy so I love the ability to quantify the process, imple-

ment life style strategies and then have a number to measure success.

Another strategy to assess if patients will respond to sesame seed oil is taste testing. Identify a limited range of motion that is associated with mild or moderate pain, and ask the patient to rate the pain and measure the limited range of motion. Next have them taste different nutrients that may support pain reducing pathways. Some of the products previously used have been a GLA source like black current seed oil, an EPA/DHA like Biomega-3, a mixture of Omega 3, 6 and 9 oils like the Optimal EFAs or Mixed EFAs. But now, we can test sesame seed oil particularly if the patient exhibits insulin resistance symptoms or shows an elevation of over 1.8 on the calculation.

You can see a link below to a webinar that explains more about the taste testing and pain reduction. Biotics research is the only professional supplier that provides organic virgin sesame seed oil both as capsules and the oil itself. Personally, I like the whole oil rather than the capsules. It has a nice nutty flavor so it can brighten up some your old favorite dishes and salad dressings. I love to add it to stir frys right at the end to make sure I don't denature the oil. Because it is organic, make sure you refrigerate it to preserve shelf life.

Try adding both of these new tools to your inflammation tool kit. For chronic patients, those with blood sugar irregularities or those with centralized obesity, these tools can be great to have on hand.

Thanks for reading this week's edition. I'll see you again next Tuesday.