

# Balanced-B8 Inositol Blend

“There is new research on Polycystic Ovary Disease and Metabolic Syndrome that is pretty exciting utilizing a myo-inositol / D-chiro-inositol blend.”

There is some new research on Polycystic Ovary Disease and Metabolic Syndrome that is pretty exciting, but first let's talk about a simplified version of the mechanisms which will help you articulate the rationale to your patients and help you to apply these ideas to other conditions.

Did you know that it's possible to have enough of the right hormones and neurotransmitters but still feel like garbage? Why? Because many hormones and neurotransmitters are hydrophilic; they can't cross the bi-lipid layer of the cell directly.

But the body, in its wisdom, has created secondary messengers to pass the signal from outside of the cell, through the membrane, and transfer information inside the cell to the nucleus or targeted organelles. So the hydrophilic neurotransmitter hands off or transmits a signal to the secondary messenger, and then this secondary messenger travels to the activation site, whether it is the



nucleus or organelle and delivers the message.

I was surprised to learn inositol is a major component of this secondary messenger system. Think about that for a second; that means major neurotransmitter systems: dopamine, norepinephrine, serotonin, acetylcholine, insulin, etc. need inositol.

One can't think of secondary messenger systems without considering the possible effect inositol would have on the big gorilla in health care, "insulin resistance." Years ago Dr. George Goodheart used to say "when treating resistive

blood sugar cases, when all else fails consider inositol." I never understood the mechanism until now. It's the secondary messenger system!

Here's a study comparing 1500 mg of metformin to 4 grams a day of myo-inositol with women who have Polycystic Ovary Syndrome, (PCOS) with insulin resistance and/or hyperinsulinemia. The women were evaluated for insulin secretion, BMI, menstrual cycle length, acne and hirsutism, at baseline and after 6 months of therapy. The results obtained in both groups were similar. BMI significantly decreased and

insulin sensitivity improved in both treatment groups.

However, there were some nice changes in the inositol group. "Among the patients treated with metformin, spontaneous ovulation activity was restored in 50%; pregnancy occurred spontaneously in 11 (36.6%) of these patients. In the myo-inositol group, spontaneous ovulation activity was restored in 65% of the patients, ovulation occurred after a mean of 14.8 days from day 1 of the menstrual cycle and pregnancy occurred spontaneously in 18 (48.4%) of these patients. Overall, these data underline that myo-inositol supplementation significantly provides higher benefits than metformin."

The form of inositol that was used in this study was myo-inositol. Newer studies are combining the myo-inositol (MI) form with another isomer D-chiro-inositol (DCI). You can see a comprehensive review of the rationale and data to the right.

Both myo-inositol and D-chiro-inositol are able to exert insulin-sensitizing effects which lead to a reduction of glucose and insulin levels in the blood. The phospholipids containing myo-inositol increase the permeability of the cell membrane to glucose, while phospholipids containing D-chiro-inositol mediate glycogen synthesis.

Just to give you an idea of how they are related physiologically, myo-inositol (MI) and D-chiro-inositol (DCI) have a plasma range in the body of (40:1). Knowing this relationship, Biotics Research has created a product called Balanced-B8. Each serving size is 1.5 teaspoons and contains 5 grams of the myo-inositol /D-chiro-inositol blend in a 40:1 ratio. Balanced-B8 mixes well with water and has a sweet taste.

Polycystic Ovary Syndrome (PCOS) is one of the most common endocrine disorders affecting women in reproductive age and a major cause of

infertility. You can see links to the right for studies on the 40:1 ratio.

Also there is a Tuesday Minute using complimentary nutrients, how one clinician reversed PCOS by using Cytozyme-O, Equi-Fem, natural progesterone, and a clean diet to reduce insulin. Remember, as you look at these studies, researchers are using inositol as a drug. Wellness clinicians are implementing lifestyle changes and monitoring progress as needed. So we can expect better results.

By the way, according to Dr. William Walsh who has tested in excess of 30,000 people assessing their methylation capacities, about 22% are hypo-methylators or have low levels of the methyl group CH<sub>3</sub>. Since methyl groups are needed to make neurotransmitters, an under methylated person tends to be depleted in neurotransmitters. His experience is that patients with anxiety, depression, or insomnia often benefit from inositol.

A study with Hashimoto's patients showed the combination of selenomethionine and inositol helped reduce thyroid antibodies and as well as elevated TSH. Researchers commented that inositol makes the TSH receptors more sensitive to the TSH signal which is useful in Hashimoto's patients.

Remember, the D-chiro form helps with glycogen. So I suspect the results of any study using inositol would be even more effective using the myo-inositol /D-chiro-inositol blend in a 40:1 physiologic ratio.

As you can see this whole idea of cell signaling and secondary messaging can have multiple effects on multiple tissues. Keep these concepts in mind as you deal with some of these difficult cases, especially PCOS.

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