THE TUESDAY MINUTE

THIS WEEK'S TOPIC

The Power Of Melatonin

"The benefits of melatonin go far beyond a good night's sleep."

Did you know that the gut has 400 times more melatonin than the pineal gland and that melatonin buffers cortisol and can inhibit ACTH-stimulated cortisol production? New research suggests melatonin protects against viral and bacterial infections, reduces oxidant stress and inflammation. It slows aging, improves menopausal symptoms and improves brain function as you age. A number of researchers have used melatonin as an adjunct with chemotherapy and found it reduces side effects and increases the effectiveness of chemo as well.

Other than the gut and the pineal gland, researchers have found melatonin is also produced in the retina, skin, bone marrow and white blood cells.

Melatonin, like other hormones, drops as we age so by the time we reach 40, chances are pretty good we're low, especially since the half-life of this amazing hormone is only 1 hour.

Like most people, I have always connected melatonin exclusively to sleep. Even though sleep has been described as our most powerful "anti-oxidant/ anti-inflammatory agent", the benefits of melatonin go far beyond a good night's sleep.

I like to think of melatonin and cortisol as a type of yin and yang. Melatonin (the yin) helps us relax and repair; cortisol (the yang) keeps us alert, awake, on edge. Excess cortisol depletes melatonin. Cortisol reduces sex hormones; melatonin helps control the timing and release of hormones.

According to gynecologist, Dr. Sara Gottfried, melatonin lowers excess estrogen and may prevent breast cancer. Low melatonin has also been linked to other estrogen dependent cancer, like endometrial cancer. She discusses the interrelationship of hormones like this: "High cortisol blocks or lowers the production of thyroid hormones, (particularly free T3, while increasing reverse T3), sex hormones such as estrogen and progesterone, growth hormone and melatonin.

Over time if the adrenals no longer continue high output, cortisol will decrease."

Interestingly, low cortisol can hinder the conversion of serotonin to melatonin and cause sleep difficulty and high cortisol will cause melatonin levels to drop as well. Remember when your body is in a state of fight or flight and "cortisol rules", our immune system is compromised. On the converse, melatonin protects against viral and bacterial infections and even has a modulating effect for inflammatory cytokines like Th17, TNF-alpha and NF-kappa B. There's a link below with further references.

So what are some anti-melatonin factors? Excess cortisol is probably the major one. However, bright lights at night, deficiencies of tryptophan and the other co-factors needed to make serotonin and exercise at night cause melatonin to drop. Night time physical exercise can blunt the nocturnal surge of plasma melatonin, probably due to cortisol spikes. Another indirect factor for reduced melatonin is toxins. Toxins stimulate cortisol and inflammation which increase glutamate resulting in a decrease of both melatonin and serotonin.

There are natural ways to increase melatonin, but remember levels of melatonin drop as we age even if we are doing all the right things. Having said that, getting to bed by 10:00 and sleeping in a dark room will facilitate the release of melatonin.

Relaxing and therapeutic forms of abdominal breathing have been shown to lower stress and cortisol and in turn raise melatonin.

Also, we can give nutrients to facilitate the natural production of melatonin as well as supplement with melatonin directly.

In terms of suggested melatonin dosage, it's a little confusing. If you look at research from 10 years ago, you get one picture; but if you look at more current research, you get higher suggested amounts.

I heard an amazing lecture by Dr. Bob Rakowski; and at the end of the presentation he said, "One of the biggest clinical pearls I've discovered is dosing 1 mg of melatonin every hour for the first 7-10 days when I see a new patient."

Remember that the half-life is only one hour. The effect of a constant short burst of melatonin helps to reduce cortisol and reestablish the sleep cycle as well as support anti-oxidant pathways and reset immune competence.

Biotics Research recently developed a product called Melatonin-B6/Mg. Each scored ½ tablet contains 1.5 mg of melatonin, 5 mg of B6 in the P-5-P form and 25 mg of magnesium glycinate. If you cut the tablet in ½ again you can get .75 mg. Using Dr. Rakowski's method of dosing or pulsing melatonin every hour, a ¼ tablet will give you .75 mg or 12 mgs in a 16 hour waking period.

Considering a lot of integrative medical doctors are recommending 20 mg or more for their aging patients for prevention, 12 mg seems to be a modest short term dose. After the 10 day cycle 1.5 to 3 mg is a very safe and effective dose at night.

As a caveat some people feel sluggish after taking melatonin. Pulsing small amounts like we've discussed and even reducing the dose further generally takes care of that.

You'll be hearing more about the power of melatonin in the next few years but for now a good night sleep, cortisol and inflammation reduction, immune modulation, and increases in cognitive protection are good reasons to consider it with all your aging patients.

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