What is serotonin?

Bioidentical Serotonin, or 5-hydroxytryptamine (5-HT), is a neurotransmitter found primarily in the gastrointestinal tract, central nervous system, and blood platelets. Serotonin is best known for its role in feelings of happiness and well-being, and is the neurotransmitter targeted by SSRI (selective serotonin reuptake inhibitor) antidepressant drugs, such as Prozac, Lexapro, and Zoloft.

As a neurotransmitter, serotonin is responsible for relaying signals between neurons. The effects of serotonin in the body are extensive, with levels of the neurotransmitter affecting mood, social behavior, appetite and digestion, pain perception, sleep, memory, sexual desire, and sexual function (1-3).

Low serotonin:

Controversy surrounding the efficacy of oral serotonin therapy has centered on claims released by the pharmaceutical companies stating that the molecule is unable to pass the blood-brain barrier, and is therefore ineffective. To the contrary, numerous studies have identified the link between depressed serum serotonin levels and symptoms of disease, including pain experienced with fibromyalgia (4), impaired mood (5, 7), and increased inflammation (7, 10). Likewise, low levels of serotonin have been consistently linked to depression (3, 6). In fact, severity of depression seems to be associated with serum serotonin levels as well. One study found there to be a significant difference in serotonin levels between depressed patients who had recently attempted suicide and those who had not, with suicidal patients having levels significantly below those of the control group (8).

At Holtorf Medical group, oral and injectable serotonin is utilized to improve a number of conditions, including: depression, anxiety, fibromyalgia, chronic fatigue syndrome, Lyme disease, and Hashimoto’s thyroiditis, among others. We have seen very positive results in patients with wide ranging symptoms, including anxiety, depression, pain, PTSD and inflammation. One patient who had been suffering from debilitating neck pain for several months reached out after receiving a serotonin injection to express the following:

“I just wanted to tell you what a difference the serotonin injection made for me last week. Driving home I noticed my eyes seemed “open” and a fog lifted from my brain. But the biggest miracle is that all the pain in the left side of my neck was gone and as of today is still gone...I don’t know what the serotonin did to make that better but it is the only thing I did differently that day...I have been seeing a chiropractor, massage therapist, taking muscle relaxants—nothing has worked like this. I have also been sleeping better.”

Serotonin supplementation vs. SSRIs

Though SSRI drugs are prescribed widely to address depression and other mental health issues, there is growing evidence that prolonged use of these drugs might contribute to long-term or serious health issues, including worsening depression, suicidal ideation, risk of drug interaction, diminished libido, sexual dysfunction, bone loss (osteoporosis)
and an inability to get off of the antidepressant after being on them for an extended period (addiction/tolerance) (11-14). For these reasons, in addition to the more immediate side effects that may make the medication difficult to tolerate, SSRI antidepressants are not an optimal choice for many patients. Utilizing actual bioidentical serotonin supplementation to boost serum levels may be more efficacious treatment option for patients wanting to treat symptoms of low serotonin. If you are currently taking SSRI antidepressant medication, your physician may recommend tapering off the SSRI and slowly replacing it with serotonin, respectively lowering and increasing doses as tolerated. This approach has benefitted many our patients, as it facilitates the weaning process and makes the transition off of antidepressants more manageable.

What about 5-HTP?

5-HTP, or 5-hydroxytryptophan, has become a relatively well-known supplement used to boost serotonin levels. Slightly different from the serotonin molecule, 5-HTP requires modification by an enzyme within the body to become bioactive serotonin. Numerous studies have shown the efficacy of 5-HTP supplementation in increasing serotonin, and its availability as an over the counter supplement makes it an attractive option for many (9). Problems can arise, however, in those for whom the issue isn’t an insufficient amount of serotonin precursor (5-HTP), but rather a defect in the enzyme that converts the 5-HTP to serotonin. For such individuals, the serotonin molecule itself is a better therapeutic option. Your physician will consider your individual symptoms, blood work, and various laboratory test results when working with you to determine your most optimal treatment plan.

Oral/injectable serotonin safety:

No serious side effects have been reported with oral or injectable serotonin. Depending on the dose administered, drowsiness may occur.

References


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