

Melatonin-10

VA-117 | NPN 80047369

A high dose melatonin supplement with powerful antioxidant action, and is beneficial in cancer treatment, sleep support and reproductive health.

Key Points:

- High dose formula containing 10 mg melatonin per capsule
- A powerful anti-oxidant and free radical scavenger
- Melatonin is a balancer and stabilizer in all stages of solid tumors
- Increases effectiveness of radiotherapy/ chemotherapy and reduces side effects
- Important for reproductive health in both men and women
- Improves sleep and reduces cognitive impairment in Alzheimer's Disease

Description:

Melatonin is a derivative of the amino acid tryptophan and is largely produced in the pineal gland. Melatonin is associated with effects on sleep, mood, sexual maturation and reproduction, immune function, aging, and the antioxidative defense system [5]. In high doses it can be an effective treatment for many types of solid tumors.

Melatonin and Breast Cancer

The role of melatonin in cancer has been under investigation for over 50 years. A 1978 study suggested that a decrease in pineal function, and therefore a reduction in melatonin secretion, could induce a state of relative hyperestrogenism. The authors proposed that the early and prolonged exposure of the breast tissue to the increased estrogens could be involved in the etiology of breast cancer [8].

Melatonin has been shown to increase the efficacy of the breast cancer drug tamoxifen. In one study, 14 metastatic breast cancer patients who were unresponsive to tamoxifen alone were given 20mg melatonin daily in the evening along with tamoxifen, and a response was achieved in 28% of these patients [10]. It has also been shown that melatonin increases the cytostatic antiestrogen sensitivity of tamoxifen via an unknown mechanism.

Quantity: 84 | Dosage Form: Vegetarian Capsules

Ingredients (per capsule):

Melatonin (vegetarian source).....10 mg

Non-medicinal Ingredients:

L-leucine, maltodextrin, hypromellose/ pullulan (capsule), silicon dioxide

Suggested Use:

Adults: for insomnia, take one capsule before bed.

Cancer: take 2-4 capsules before bed. *(consult with health care practitioner before taking melatonin in cancer)*

Increased Survival Time

A systematic review and meta-analysis of all randomized controlled trials indicates a consistent effect on 1-yr survival of adjunct melatonin in a variety of advanced stage cancers [5].

Low melatonin levels have been associated with a variety of cancers, including breast, prostate, endometrial, lung, gastric and colorectal. Removal of the pineal gland in mice enhances tumor growth, and the administration of melatonin reverses this effect [7].

Clinical trials have shown that melatonin can be beneficial for non-small cell lung cancer (NSCLC), both at increasing survival time and increasing tolerance to conventional therapy.

Adjuvant Therapy

Numerous studies have shown that melatonin in combination with chemotherapy can increase efficacy and survival time while decreasing side effects [6]. It has been suggested that a combination of melatonin with chemotherapy could lower the threshold for chemo agents, lowering the required dose and thus lowering both cost and toxicity. Melatonin could also protect normal tissues from being sensitized to the cytotoxicity of chemotherapy, and reduce side effects via its free radical scavenging/ antioxidant properties.

Melatonin and Reproductive Health

The scavenger properties of melatonin have been shown to be crucial for optimal cell and organ functions, including functionality of the reproductive system [6].

Melatonin acts as an antioxidant not only through direct free radical scavenging, but also by stimulating antioxidative enzymes interacting with its membrane receptors. Melatonin receptors have been found in several areas involved in reproduction, including neurons in the hypothalamus that control the release of pituitary gonadotropins, the anterior pituitary gland, and in both female and male gonads [12]. Melatonin has also been shown to protect sperm from oxidative damage [13], and aid



in oocyte development. Melatonin levels are known to decline with age, inducing a decrease in oocyte quality. However, melatonin administration was shown to preserve oocyte quality, increasing fertilization and pregnancy rates in women with poor oocyte quality [14].

As mentioned above, low levels of melatonin are associated with elevated estrogen, lending to the potential role of melatonin in conditions of estrogen dominance such as PCOS.

Alzheimer's Disease

It has been observed that patients with AD have lowered melatonin in serum and CSF, as well as loss of melatonin diurnal rhythm, which often results in sleep disruption and sundowning agitation. Supplementing with melatonin has been found to produce a significant improvement in sleep quality and stabilization of behaviour [11].

Melatonin protects neuronal cells from beta-amyloid toxicity via antioxidant and anti-amyloid properties, arrests the formation of amyloid fibrils, and attenuates Alzheimer-like tau hyper-phosphorylation [15].

In an interesting case report of monozygotic twins who developed Alzheimer's disease, one twin supplemented with melatonin (6mg/day) for 36 months and had milder impairment in memory loss, as well as a substantial improvement in sleep quality and reduction of sundowning [16].

Although more research is needed, melatonin supplementation may be beneficial for the prevention and symptomatic treatment of Alzheimer's disease.

Mechanisms of Action

A Powerful Antioxidant

Besides its ability to directly neutralize a number of free radicals and reactive oxygen and nitrogen species, melatonin stimulates several antioxidative enzymes (including superoxide dismutase, glutathione peroxidase and glutathione reductase), which increase its efficiency as an antioxidant. There are now hundreds of publications that demonstrate the free radical scavenger and antioxidant actions

of melatonin, both in vitro and in vivo [4].

Anti-tumor Activity

Melatonin works through a number of mechanisms. Research has found that linoelic acid can be oxidized to 13-hydroxyoctadecadienoic acid, which serves as an energy source for tumor growth and tumor growth signaling molecules. Inhibition of linoelic acid uptake by melatonin is regarded as one mechanism of its anti-proliferative effects [6].

Timing of Administration

It is always best to take melatonin and nighttime. Studies have suggested that melatonin given to tumor-bearing animals in the late afternoon and evening are more effective in suppressing tumor growth than morning administration, suggesting that tumors exhibit their own circadian rhythm of sensitivity [7]. Thus, it seems that nighttime administration of melatonin may be more beneficial than administration during the daytime.

Safety

Melatonin is a naturally occurring substance in the body and has an excellent safety profile. No adverse side effects have been observed after oral administration of recommended doses. The most common 'side effect' of melatonin supplementation is sedation or sleepiness, which is not considered an adverse effect by most users when taken at bedtime [9].

References

1. McKinney, Neil. Naturopathic Oncology. Creative Guy Publishing. Oct 2012.
2. Mills E, Wu P, Seely D, Guyatt G. Melatonin in the treatment of cancer: a systematic review of randomized controlled trials and meta-analysis. J. Pineal Res. 2005; 39:360-366.
3. Ochoa et al. Melatonin supplementation ameliorates oxidative stress and inflammatory signaling induced by strenuous exercise in adult human males. J. Pineal Res. 2011; 51:373-380.
4. Reiter, Tan, Osuna, Gitto. Actions of Melatonin in the Reduction of Oxidative Stress. J Biomed Sci 2000;7:444-458.
5. Brzezinski, A. Melatonin in humans. N Engl J Med 1997; 336:186-195.
6. Blask DE, Sauer LA, Dauchy RT. Melatonin as a chronobiotic/anticancer agent: cellular, biochemical, and molecular mechanisms of action and their implications for circadian-based cancer therapy. Curr Top Med Chem 2002;2:113-32.

7. Tamarkin L, Cohen M, Roselle D, Reichert C, Lippman M, Chabner B. Melatonin inhibition and pinealectomy enhancement of 7,12-dimethylbenz(a)anthracene-induced mammary tumors in the rat. Cancer Res 1981; 41:4432-6.
8. Cohen M, Lippman M, Chabner B. Role of pineal gland in aetiology and treatment of breast cancer. Lancet 1978;2:814-6.
9. Melatonin. Monograph. Altern Med Rev 2005;10: 326-36.
10. Lissoni P, Barni S, Merigalli S, et al. Modulation of cancer endocrine therapy by melatonin: a phase II study of tamoxifen plus melatonin in metastatic breast cancer patients progressing under tamoxifen alone. Br J Cancer 1995;71:854-6.
11. Cardinali, D. P., et al. The use of melatonin in Alzheimer's disease. Neuro-endocrinology letters 23 (2002): 20-23.
12. Reiter RJ, Tan DX, Fuentes-Broto L. Melatonin: a multitasking molecule. Prog Brain Res 2010;181:127-51.
13. du Plessis SS, Hagenaar K, Lampiao F. The in vitro effects of melatonin on human sperm function and its scavenging activities on NO and ROS. Andrologia 2010;42(April (2)):112-6.
14. Tamura H, Takasaki A, Miwa, et al. Oxidative stress impairs oocyte quality and melatonin protects oocytes from free radical damage and improves fertilization rate. J Pineal Res 2008;44(April (3)):280-7.
15. Cardinali, D. P., Brusco, L. I., Liberczuk, C., & Furio, A. M. (2002). The use of melatonin in Alzheimer's disease. Neuro endocrinology letters, 23, 20-23.
16. Brusco, L. I., Márquez, M., Cardinali, D. P. (1998). Monozygotic twins with Alzheimer's disease treated with melatonin: Case report. Journal of pineal research, 25(4), 260-263.

For educational purpose only.

The entire contents are not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read in this presentation.

All statements in this article have not been evaluated by the Food and Drug Administration and are not intended to be used to diagnose, treat, or prevent any diseases.