Benefits of Low Dose Naltrexone
Immunomodulatory and Biochemical Effects of LDN
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LDN exerts its beneficial effects by reducing inflammation and oxidative stress, modulating the immune system, and inhibiting cancer cell proliferation.

Naltrexone is an opiate antagonist that preferentially blocks the mu opiate receptor found on neuroendocrine and immune system cells. The consequences of this blockage depend on its duration. That is, naltrexone’s effects depend on how long the receptor is blocked.

**HDN vs. LDN**

High dose naltrexone (HDN) refers to naltrexone doses greater than 10 mg daily. Low dose naltrexone (LDN) refers to doses of naltrexone ranging from 1 to 10 mg daily.

HDN blocks the opiate receptor continuously. This persistent blockade prevents opiates, both endogenous or naturally occurring opiate compounds and opiate drugs, from reacting with the opiate receptor. Consequently, opiate medications are prevented from causing biochemical effects.

The endogenous opiate compounds, (the endorphins, dynorphins, and metenkephalins) are also prevented from causing their pleasurable effects. The natural increase in endorphins caused by exercise, acupuncture, chocolate, sunbathing, and lovemaking has no effect in someone on HDN.

LDN blocks the opiate receptor for approximately 4 hours. This intermittent blockade causes a rebound effect resulting in a dramatic increase in endogenous opiate production.

**LDN Dosage**

LDN is generally used in doses ranging from 3-10 mg daily depending on body weight, the patient’s condition, and individual response. For instance, patients with multiple sclerosis (MS) and muscle spasticity generally do better on a 3 mg dose than the standard 4.5 mg dose recommended for neurodegenerative disorders.

The most common side effects of LDN are sleep disturbances and vivid dreams. These effects can be avoided by taking LDN in the morning. Although early reports suggested that LDN needed to be taken at night, studies have shown that LDN can be taken at any time. It is not necessary to take it at night.

**The Effects of LDN**

The Pennsylvania State University researcher, Dr. Ian Zagon, Ph.D. has been studying LDN for 25 years and reports that LDN’s most important effect is its ability to increase production of met-5-enkephalin, which he named opioid growth factor (OGF) for its functional properties. The endogenous opiates are neurotransmitters as well as cytokines, influencing the activities of immune system cells and having distinct biochemical effects (e.g. growth factors, neurotrophic factors, antiviral activity, anti-tumor activity, anti-inflammatory and pro-inflammatory effects).
OGF forms a complex or system when it reacts with the OGF receptor, a receptor found on immune system cells and cancer cells. This system inhibits inflammation and cancer cell growth. This system also restores homeostasis, a natural process in which the body’s cells and systems work together to maintain health. Thus, LDN helps the body heal itself. In certain cancers, OGF is used in place of LDN.

Dr. Jau-Shyong (John) Hong of the National Institute of Environmental Health Sciences (NIEHS) discovered that LDN also prevents microglial activation, the main cause of chronic brain inflammation. In addition, LDN has antioxidant properties that reduce the effects of free radicals throughout the body, thereby reducing chronic inflammation.

LDN also causes changes that reduce neuronal degeneration. As a consequence, LDN offers protection against neurodegenerative diseases, such as Parkinson’s disease and MS. Chronic inflammation contributes to the persistence of autoimmune disorders and is an underlying cause of many conditions, including Crohn’s disease.

By increasing endorphins, which are immunomodulators, LDN improves immune function. Immunomodulators stimulate antibody production in patients with immunodeficiency (HIV infection) and reduce antibody production in patients with excessive antibody production (autoimmune disorders, herpes, Lyme disease).

The Common Link

Doctors Zagon and Hong and other experts in the field reported that diseases which respond favorably to LDN are diseases that benefit from effects on cell proliferation (cancer inhibition) or from a reduction in inflammation (neurodegenerative and autoimmune disorders, fibromyalgia) or that benefit from the restoration of homeostasis and immunomodulation (virtually all disorders, including infectious diseases).

Clinical Trials

To date, LDN has been studied or is undergoing clinical trials for pancreatic and head and neck cancers, Crohn’s disease, HIV/AIDS, neuroblastoma, melanoma, autism, Parkinson’s disease, lymphoma, multiple sclerosis and fibromyalgia. There are also many anecdotal reports that suggest LDN offers benefits in a wide range of other autoimmune and neurodegenerative diseases and malignancies. Clinical trials are needed to confirm the anecdotal reports.

Resources:
Samantha Wilkinson, LDNers.org

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