Low Dose Naltrexone
The Use of LDN for MS, Crohn's, and Other Autoimmune Diseases
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Clinical trials and anecdotal reports suggest that low doses of the opioid antagonist naltrexone offer promise to patients with a variety of different autoimmune diseases.

Used in low doses, the pure opioid antagonist Naltrexone (LDN refers to low-dose Naltrexone), a mainstay for treating opiate and alcohol addiction since 1984, has been reported to provide significant benefits for patients with autoimmune diseases, HIV infection, various cancers, and neurodegenerative diseases. The use of LDN in treating patients with multiple sclerosis (MS) was first proposed in the mid-1980s by Dr. Bernard Bihari, a New York City neurologist. In his clinical practice, the Harvard educated Bihari found that a low dose of naltrexone (1.5 to 4.5 mg daily) taken at bedtime offered benefits to patients with MS and other autoimmune conditions including rheumatoid arthritis and systemic lupus erythematosus. Since, additional studies and anecdotal reports have confirmed Bihari's findings and demonstrated the effectiveness of naltrexone for Crohn's disease, Parkinson's disease and other conditions.

Naltrexone Dose

The usual dose of naltrexone used for opiate addiction is 50-300 mg daily and in autoimmune diseases the dose ranges from 1 to 10 mg daily and, according to recommendations, the dose should always be taken at night. Naltrexone is a very inexpensive medication, with a reported cost of less than 50 cents daily when low doses are used. Side effects are rarely seen when doses less than 300 mg daily are used and have been limited to rare reports of insomnia.

Naloxone

Naloxone, an opiate antagonist often used in emergency settings to treat opiate overdoses, has also been researched for its use in autoimmune disease. The drawback of naloxone is that it cannot be administered orally. However, studies regarding low dose naloxone show effects similar to those of naltrexone.

Clinical and Anecdotal Reports

The results of clinical trials on LDN to date have shown remarkable improvement in patients with Crohn's disease and patients with MS. In the last decade there have also been numerous anecdotal reports of MS patients worldwide, particularly in the US and UK, experiencing relief from symptoms, a decline in disease progression, and remission from the use of low dose naltrexone. In addition, there are anecdotal reports of improvement in patients with chronic fatigue syndrome, autoimmune liver disease and rheumatoid arthritis.

Immune System Effects

Used as a low dose, Naltrexone is able to block the mu opioid receptor but does not affect the other opioid receptors. In blocking the mu opioid receptor, low dose Naltrexone re-establishes the normal balance between the mu and delta opioid receptors, which is necessary for immune competence. Naloxone has also been show to increase Th1 and decrease Th2 cytokine production, decrease IL-4 production, and increase IL-2 and
interferon gamma levels. In many autoimmune diseases, for instance Graves’ disease, low Th1 levels are related to the proliferation of autoreactive T lymphocytes and the ability to produce autoantibodies.

The effects of naltrexone are also thought to be attributed to the removal of the regulatory effects on the immune system exerted by endogenous opioid peptides, which could activate Th2 and suppress Th1 cytokines. Naltrexone is reported to increase production of endogenous opioid peptides.

**Biochemical Effects**

Studies have suggested that naltrexone reduces apoptosis (cell death) of the myelin-producing oligodendrocytes. It accomplishes this by reducing inducible nitric oxide synthase activity, which cause a decrease in peroxynitrite formation, which, in turn, prevents the inhibition of glutamate transporters. Consequently, the excitatory neurotoxicity (cell destruction) of glutamate on neurons and oligodendrocytes is prevented. Studies also show that naltrexone reduces inflammation in neurons.

**Clinical Trials**

A number of clinical trials are currently being conducted on patients with MS, Crohn’s disease, and irritable bowel syndrome. The status of current clinical trials can be found at low dose naltrexone trials and at recent clinical trials for LDN. More information on current research and patient information can be found at the Low Dose Naltrexone for Multiple Sclerosis website.

**Resources:**


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