

Other Potential Applications for LDN

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- Physician Assistant 31 years : 10 medical and surgical specialties
- Medical consultant to the Neuromodulation Industry
- Physiologist U.C. Davis cell physiology
- Father of son with Crohn' disease tx with LDN





Take Away Points

- Common traits of LDN treatable diseases
- Types of diseases that LDN may be used
- Reasons why LDN should be considered for treatment

- Economical less than 50 dollars per month
- Excellent Safety profile without any history of severe reactions or fatalities. Thousands of people die from aspirin or other NSAIDs annually. Acetaminophen overdose cause for Liver transplants
- Applications for autoimmune disease
- Applications for cancer or post cancer care

- Two major pathways for management of disease
- Opiate blockade that affects the endorphins regulatory mechanism on T Cells which balance the TH1 and TH2 cells for Autoimmune disease
- Metenkephalin production (OGF) stimulates P16 and P21 inhibitory pathways of cancer cell division

- Cytokines small proteins that regulate the immune system. Interferons and Interleukins
- Proinflammatory Cytokines Interleukins 6 and 12, Tnf alpha NfKb
- Antiinflammatory Cytokines IL4, IL10
- Imbalance of the cytokines leads to RA, SLE, Crohn's disease, Diabetes

Diabetes Type 1 (juvenile diabetes)

- Insulin required to let glucose into cell
- Elevated glucose leads to glycation end products causing heart disease, blindness, kidney failure, peripheral vascular disease, neuropathy
- Type 1 Dysregulation of the immune system leading to death of the insulin producing beta cells in pancreas requiring Insulin for treatment
- TH1 cells secrete proinflammatory cytokines

Diabetes Type 1

- genetic factors involving the HLA gene
- environmental factors viruses, bacteria, stress, molds that stimulate Th1 cells
- Overstimulation of proinflammatory cytokines causes the death of the Beta cell.

Diabetes Type 1 and LDN

- 10 year old athlete with DM1 for 1 year uncontrolled with insulin pump
- With the cooperation of her doctor started on LDN 1.5 mg. first night
- following am had to slow the baseline infusion
- during the day had to shut the insulin pump off for an hour, and increase her CBH snacks

DM 1 Case continued

- During that first day insulin requirements went down 25% and CBH snacks increased (similar to Hashimotos response)
- Over that first week the Insulin requirements went down 50% and she was well regulated
- Two months later without LDN glucose unregulated, returned to tight control when LDN resumed.

Interstitial Cystitis

IC

- Chronic severely painful debilitating urinary bladder disease
- Symptoms: frequency, urgency, dysuria, suprapubic pain, ie chronic UTI symptoms
- High concentration of inflammatory cytokines in the bladder relative to normal women and men

Corcoran AT, Yoshimura N, Tyagi V, Jacobs B, Leng W, Tyagi P, Mapping the Cytokine Profile of Painful Bladder Syndrome/Interstitial Cystitis in Human Bladder and Urine Specimens, *World J Urol.* 2013 Feb; 31(1):241-246

Peters KM, Diokno AC, Steinart BW., Preliminary Study on Urinary Cytokine levels in Interstitial Cystitis: Does intravesical Bacille CAmette-Guerin treat interstitial Cystitis by Altering the Immune Profile in the Bladder?, *Urology.*, 1999 Sep;54(3):450-3



IC case

- Pelvic pain support talk all women with IC, treat some women with a Spinal Cord Stimulator
- Women in late 40's with years of IC started on LDN to 4.5 mg
- One year later She reduced her urine frequency by about 1/3, reduced pain doing very well
- Research to find out the bladder cytokine levels after LDN

Tonsillar Squamous Cell Carcinoma

Post Cancer Care

- OGF and OGFR stimulate P16 and P21 cancer cell division inhibitory pathways P16 more active in head and neck cancers more difficult due to less OGFR in those cancers
- 2009 38 year old male with left tonsil squamous cell carcinoma stage 4 .
- 43% 5 year survival rate NCI
- Treated MD Anderson radiation and chemotherapy

Tonsillar Squamous Cell Carcinoma post cancer care

- May 2010 Started on LDN
- September 2013 all pet scans and blood do not show any hint of recurrence despite two men he knew with the exact diagnosis have not survived.

Multiple Sclerosis

- Myelin : nerve sheath covering that allows nerve signals to travel efficiently
- Demyelinating disease found more prevalent in the northern latitudes ? Vitamin D?
- Higher incidence in women than men
- Age 20's-40's

Multiple Sclerosis

- Symptoms: spotty loss of sensation, motor weakness, visual loss, loss of balance, pain, cognitive loss, fatigue, bladder control
- Painful thoracic neuritis case post LDN pain resolved
- Colleague with MS on MS drugs, fatigue, balance issues Post LDN bike riding, remodeling house living life again

LDN for MS

- Start SLOW and LOW 0.5 mg -1.0 mg 2-3 weeks then increase by .5 mg q 2 weeks until get to 3 mg watching for symptoms. May go as high as 4.5 mg but many do well at 3.0 mg
- Risk of exacerbation of the MS but resolves in two weeks
- Dreams and insomnia
- If MS symptoms increase go back to previous dose

Conclusion

- Many disease may potentially benefit from LDN
- Autoimmune diseases with endorphin affects on the balance of the TH1/TH2 cells
- Cancer diseases to help manage the disease or prevent cancer recurrence by action of the metenkephalins OGF where that mechanism was identified by Dr. Zagon in 90% of human cancers
- More research has to be done