Low Dose Naltrexone (LDN) and Small Intestinal Bacterial Overgrowth (SIBO)

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Disclosure and disclaimer

- In this this presentation I have no conflict of interests, potential or otherwise.

- In this presentation are topics of general information. Particular treatments should be discussed with your doctor as this presentation and discussion in no way takes the place of your doctor.

SIBO

- Chronic bacterial infection of the small intestine
- Bacteria may be species normally encountered in gut however presence and amount are not normal for small intestine
- Bacteria may be pathogenic species

SIBO Associated Conditions

- GI
  - IBS, IBD, Celiac, Liver disease
- Fibromyalgia
- Neurologic
  - Parkinson's, Muscular Dystrophy, Dysautonomia
- Inflammatory/autoimmune
  - Rheumatoid, scleroderma, Lyme

Predisposing Factor for SIBO

- MMC dysfunction (impaired gut motility)
  - Dysautonomia, opiate use/abuse
- Hypochlorhydria
  - PPI usage
- Long term antibiotic usage
  - Lyme treatment
- Ileocecal valve dysfunction

SIBO Symptoms

- IBS
  - Bloating, cramps constipation/diarrhea
- Malabsorbtion
  - Steatorrhea, weight loss
- Leaky gut
  - Fatigue, joint pain, rashes, mood disorders, cognition, headache, “sensitivities”

SIBO Treatment

- Prokinetic agent
  - Erythromycin, LDN
- Diet
  - FODMAP, elemental
- Probiotics
- Antimicrobial
  - Antibiotics
    - Rifaximin
  - Antimicrobial herbs

Low Dose Naltrexone (LDN)

- LDN is naltrexone administered in low dose, <10% typical dose
- Antagonizes the μ and κ receptors
- Short half life (6 hrs) allows pulsatile dosing
- Feedback response to pulse dosing increases endorphins and enkephalins
- Opioid Growth Factor (OGF) and OGF receptor increases

LDN and Gut

- OGF mediated modulation of T cell and B cell activity
- Decreased inflammation
- Decreased permeability
- Toll like receptor stabilization
- Increased motility

LDN Studies: Gut

- RCT Crohn's disease
- LDN 12 week course
- CDAI score and Endoscopy
- 70% reduction in CDAI
  - 88% LDN group
  - 28% control group
- Endoscopic remission
  - 33% LDN group
  - 8% control group

Dig Dis Sci 2011 Jul;56(7):2088-97

LDN Studies: IBS

- LDN 0.5mg for 4 weeks
- Pain and global assessment
- Pain free days increased (p=0.011)
- 76% reported global improvement

Dig Dis Sci 2006 Dec;51(12):2128-33

IBS and SIBO

- SIBO proposed as cause of IBS by Pimentel
- Double blind, randomized, placebo controlled study of 111 IBS patients
- Lactulose breath test assessment (LBT)
  - IBS 84% abnormal LBT
  - Controls 20% abnormal LBT
- Neomycin Rx resulting in normalization of LBT lead to 75% response

Baillieres Clin Gastro 1988 Jan;2(1):123-39

LDN and SIBO

- SIBO positive IBS patients
- LDN 2.5mg daily diarrhea
- LDN 2.5 mg BID constipation
- Improvement (mild-marked) 68%
- No response 27%
- Worse 5%

Int J Pharm Compounding 2010 Mar;14(2):171-73

Conclusion

- SIBO represents chronic bacterial infection of small intestine
- SIBO is associated with broad array of chronic conditions
- Enteric motility plays role in prevention and treatment of SIBO
- LDN's prokinetic properties have been studied in treatment of SIBO and related conditions

Conclusion

- LDN has interactions with immune system, permeability, secretion and bacterial translocation which my also play a role in treatment of SIBO
- Randomized trials with LDN and SIBO would be helpful
- Patient awareness of SIBO may further interest into support of these studies