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

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Disclosure and disclaimer

• In 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
- Malabsorption
  - 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

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LDN Studies: IBS

- LDN 0.5mg for 4 weeks

- Pain and global assessment

- Pain free days increased (p=0.011)

- 76% reported global improvement
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

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%

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 may 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