Hello Functional Medicine Discussion Group members:

Our next meeting will be **Thursday February 23 at 6:30** and the topic will be **SIBO as the cause of IBS with the famous Dr. Mark Pimentel**. Dr. Pimentel is a Gastroenterologist and primary researcher, leading the Pimentel Lab at Cedars Sinai Hospital. We will meet in the MultiPurpose room at the Santa Monica library at 601 Santa Monica Blvd. with the parking lot entrance on 7th Street. **Please let me know as soon as possible if you will be able to attend** by sending me an email with **RSVP Pimentel** in the subject line. As usual, Metagenics will be providing some healthy food.

If you have interest in learning more about gastrointestinal health and IBS and SIBO in particular, then this meeting should be very thought-provoking. We will get to hear from and speak with one the world's experts on Small Intestinal Bacterial Overgrowth and IBS, Dr. Mark Pimentel.

Irritable Bowel Syndrome (IBS) is a condition marked by abdominal pain, diarrhea, constipation, or both, gas, bloating, or urgency. When patients with IBS undergo colonoscopy, there is no visual pathology, unlike patients with IBD. For many years, IBS was seen as a condition arising from psychological stress until Dr. Pimentel discovered that an overgrowth of bacteria from the colon into the small intestine was the causative agent in an overwhelming majority of cases of IBS (84%). However, this was not easily accepted by the medical profession and for the most part, it still has not been accepted. As you may already know, on average, it takes 17 years for a new idea in medicine to be accepted into common practice. For example, the Mayo Clinic describes IBS, aka spastic colon, as a functional disorder of the colon of unknown origin with no cure. Among the self care recommendations for IBS on the Mayo Clinic web site are a high fiber diet rich in whole grains and beans, which contain non-digestible carbohydrates that would feed the bacteria that cause SIBO.

Much of the medical world continues to see IBS as caused by or related to psychological stress and some patients with IBS are prescribed anti-depressants. This complicates the research on IBS, since antidepressants elevate levels of serotonin, which alters bowel motility. Excess levels of serotonin speed up bowel motility and can lead to diarrhea and lowered levels of serotonin can result in constipation due to decreased motility. This was discovered by Dr. Michael Gershon, who wrote *The Second Brain*. A number of drugs have been developed or are being developed for IBS patients to control diarrhea or constipation that either decrease or increase serotonin levels. In fact, the most common treatment for IBS involves medications that control symptoms like drugs that counter constipation, diarrhea, or abdominal cramping. Dr. Pimentel lays out this history of IBS in his book *A New IBS Solution*, that I urge you to read before the meeting: http://www.barnesandnoble.com/w/a-new-ibs-solution-mark-pimentel-md/1111493121?ean=2940014778237

Testing for SIBO is commonly conducted using a lactulose hydrogen/methane gas breath test, such as this one offered by Genova labs: https://www.gdx.net/product/lactose-intolerance-test-gastrointestinal-test-breath . This test is positive if either of these gases are produced in more than small quantities in less than two hours after ingesting lactulose, indicating that it is coming from the small rather than the large intestine. It is normal for these gases to be produced by bacteria growing in the colon. However, Dr. Pimentel has also recently developed a blood test for anti-CdtB and anti-vinculin antibodies for helping to diagnose SIBO.
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0126438

Dr. Pimentel has had many critics over the years, such as Dr. Spiegel, who wrote a paper questioning whether SIBO is the cause of IBS. Dr. Spiegel argues that the hydrogen breath test does not actually measure SIBO and that SIBO is unlikely to be the cause of IBS http://www.cghjournal.org/article/S1542-3565(11)00236-9/pdf But Dr Spiegel in the conflicts of interest section admits to serving as an advisor or taking grant money from AstraZeneca, Movetis, Procter and Gamble, Prometheus, Ironwood, Rose Pharma A/G, Salix, Shire, and Takeda. It should be noted that Takeda makes Amitiza, Movetis distributes Prucalopride, while Ironwood and AstraZeneca produce Linzess, common medications for IBS symptoms that Dr. Pimentel's approach bypasses.

Dr. Pimentel's protocol for treating IBS is to use Rifaximin, a specific non-absorbable antibiotic for 10-14 days. He validated this treatment with the following paper published in NEJM: http://www.nejm.org/doi/10.1056/NEJMoa1004409 He may also use Neomycin, another mostly non-absorbable antibiotic. After the course of antibiotics, Dr. Pimentel will recommend a Specific Carbohydrate diet or a diet low in fermentable carbohydrates and lactose free. He also mentions the efficacy of an Elemental Diet in place of taking antibiotics. Unlike most functional Medicine practitioners, who simultaneously use a SCD or Low FODMAP diet or even an Elemental Diet at the same time as prescribing natural antimicrobials or an antibiotic like Rifaximin, Dr. Pimentel feels that this is counterproductive. Listen to this podcast of Dr. Pimentel being interviewed by Chris Kresser in which he discusses why a low FODMAP diet is not helpful when treating SIBO, since keeping the bacteria happily fed makes it easier to kill them with Rifaximin. According to Dr. Pimentel, "this is an old microbiological concept — happy bacteria, happy and well-fed bacteria, are more sensitive to antibiotics and are easier to kill. What that means is that most antibiotics work on the replicating cell wall of bacteria. When bacteria are in hibernation, starving, distressed, they wall off, don't replicate, and they just sit there, waiting for conditions to improve. That's a survival mode. So when the bacteria are in survival mode, antibiotics won't penetrate and won't work as well."
http://chriskresser.com/sibo-update-an-interview-with-dr-mark-pimentel/

Can natural anti-microbials be effective against SIBO if you did not want to prescribe antibiotics? Dr. Gerard Mullen has validated the combination of using either two combination products from Metagenics (Candibactin AR and BR) or from Biotics and found that they were as effective as using Rifaximin. In fact, for some of the patients who failed antibiotics, taking a round of herbal therapy was successful in 57% of such patients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4030608/ A number of Functional Medicine practitioners also use additional compounds, such as specific enzyme products designed to break up bacterial biofilms.

From a Functional Medicine perspective, there a number of factors that should be considered, including:

1. A lack of digestive enzymes and/or hydrochloric acid and/or bile acids increase the risk of SIBO. HCL, enzymes, and bile normally help keep the small intestine relatively aseptic, so supplementation with digestive enzymes and/or HCL and/or ox bile may be beneficial.
2. Probiotics have been shown to be helpful
3. Enteric coated peppermint oil has been shown to help reduce symptoms of IBS
4. A number of drugs increase the risk of SIBO, including narcotics that slow gastric transit and PPIs that block hydrochloric acid.

5. Anything that slows gastric transit time places you at increased risk of SIBO, such as intestinal inflammation, which inhibits the migrating motor complex. Strategies that stimulate the migrating motor complex can be helpful, including gargling, stimulating the gag reflex, and coffee enemas where you hold the enema contents for a long as possible to activate the brain-gut axis. (from Datis Kharrazian) In addition, Iberogast is a German compound botanical tincture that appears to have prokinetic activity.
6. Impaired functioning of the ileocecal valve (which separates the small intestine and the colon) increases the likelihood of colonic bacteria traveling into the small intestine. Intestinal gas may force open the valve further.
7. Supplements that heal the brush border of the small intestine are often helpful, including lactose free colostrum, L-glutamine, zinc carnosine, curcumin, resveratrol, Glutathione or NAC. Traditional mucilaginous herbs that are often recommended for gut healing in other gastrointestinal conditions, such as licorice, aloe, and marshmallow, contain high levels of fermentable mucopolysaccharides and could encourage bacterial regrowth and are therefore not recommended.

Complicating the situation is that there is also SIFO, Small Intestinal Fungal Overgrowth, which may explain why some patients do not improve with antibiotics or natural antimicrobials. For those wanting to learn more about SIFO, check out this Michael Ruscio Radio podcast on SIFO https://drruscio.com/sifo-small-intestinal-fungal-overgrowth/ BTW, here's another podcast from Dr. Ruscio interviewing Allison Siebecker, perhaps the Functional Medicine world's top expert on SIBO, discussing the use of biofilm agents as well as SIFO, https://drruscio.com/sibo-updates-dr-allison-siebecker/ Here is a really nice review article about SIBO from Dr. Siebecker that is helpful: http://www.townsendletter.com/FebMarch2015/sibo0215_3.html

I look forward to seeing you on the 23rd! Also, check out my new weekly podcast, Rational Wellness on Itunes or Youtube.