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Small Intestine Bacterial Overgrowth

Small Intestine Bacterial Overgrowth (SIBO) is now considered to be the cause of 60% of people with Irritable Bowel Syndrome.

Irritable Bowel Syndrome is a condition whereby people suffer from gas, bloating, diarrhea, constipation or both on rotating days, belching, GERD, abdominal pain and distention—this may last for years and years.

For people with IBS, every day is an intestinal nightmare. If you feel that way or know someone who does, you should refer them to a naturopathic physician who is an expert on the gut and on SIBO.

SIBO is a very complicated gut condition which needs to be treated in a step by step pathway covering multiple aspects of healing.

To explain SIBO lets start with some terminology:

The colon, or large bowel, moves food through it via "peristalsis". The stomach and small intestine move food through it in waves which are run by nerves called the "Migrating Motor Complex" (MMC). The MMC is made up of nerves called "Interstitial Cells of Cajal" which contain a protein on them called "Vinculin". It is serious damage to the MMC which initiates the condition called SIBO.

Vinculin and ICC cells are kind of like the pacemaker of the intestinal muscles, like the heart pacemaker tells the heart muscle how quick to beat in any situation. The muscles of the small intestine are used to move food out of the stomach into the small gut, and then through the twenty feet of the small intestine to the ileocecal valve, the valve between the small intestine and the large intestine. Once the food goes through that valve, then the colon peristalsis kicks in.

In general the waves of the Migrating Motor Complex are going pretty regularly. They start 1-2 hours after we eat (which is another reason grazing is not a healthy way to eat—if you are eating frequently, your MMC will not have a chance to act as it should). In a healthy, normal gut, there are 3 waves per minute of the MMC in the stomach, 12 per minute in the duodenum, 10 per minute in the ileum. When the MMC is damaged, these waves are noticeable reduced.

There are many things that can damage the MMC:

1. **Food poisoning**—this is one of the largest areas of damage to the MMC. There are certain common food borne bacteria which create Cytotoxic Distending Toxin: *Campylobacter jejuni*, *Salmonella*, *Shigella*, *E.coli*—very common food poisoning bacteria. There are several forms of that toxin but CDT type B is the big problem. In some people who get a food poisoning from a microorganism which makes CDTb, they produce antibodies to the toxin to help destroy it, as we produce antibodies to other illnesses we experience. However, in some people these natural body antibodies get confused and start attacking the vinculin protein on the ICC, significantly damaging it. When the vinculin is

damaged, the ICC cells cannot work and the MMC is damaged. Many patients recall they had a bad food poisoning years ago, and ever since then, their gut has not been "right". What's even more interesting is that post-infectious SIBO tends to occur to younger people, than older people.

2. Diabetic neuropathy
3. Narcotic use—ANY narcotic can cause SIBO
4. There are other anatomical reasons the MMC might slow down
 - a. Ehler-Danlos Syndrome—a genetic disease of laxity of the musculoskeletal system.
 - b. Abdominal or Pelvic adhesions
 - c. Small gut diverticula
 - d. Blind loops (common on patients who had gastric bypass surgery)
 - e. Tumors of the small bowel
 - f. Extra loops of the small bowel
 - g. Surgical excision of ileocecal valve

When the MMC is damaged, what happens next is that colonic bacteria backwash into the small intestine—that is, if forward movement is not happening as expected, then backward movement can occur.

When the colonic bacteria enter the small intestine, they thrive! There is suddenly all these food stuff to eat and digest, which is not typical for the colon. When the bacteria eat and grow, they excrete a great of gas, causing bloating and abdominal pain and misery. Also, they cause damage to the lining of the small intestine, which causes it to develop intestinal permeability, and also prevents the small gut from making the enzymes that are typically made in the small gut—the disaccharidases. These enzymes break down carbohydrates that are in two pair chains. When the enzymes are not there, eating foods requiring those enzymes are not broken down, are not absorbed into the body, and so instead are fermented by the colonic bacteria, causing gas and intestinal damage, which means more similar foods cannot be processed, etc, a proverbial Catch-22.

There are three types of microorganisms which thrive in SIBO: hydrogen producing bacteria (E. Coli, Klebsiella, Proteus, Aeromonas), Hydrogen sulfide producing bacteria and methanobrevibacter smithii, which is not really a bacteria, but is an Archae species microorganism.

Generally, if a patient is high in hydrogen bacteria they tend to have diarrhea problems, and if they are high in m.smittii they tend to have constipation problems. Methane really slows the movement of the gut. With patients with hydrogen sulfide bacteria, we look to have them report their flatus or breath is egg sulfur smelling.

When a patient comes to me with these symptoms, doing a test for SIBO is key:

1. Daily gas and bloating
2. Abdominal distention "like I'm pregnant"
3. Diarrhea or Constipation or Both
4. Gastroesophageal reflux disorder
5. Belching and/or Flatulence
6. Diverticulitis
7. Gastroparesis
8. H.Pylori
9. Low Stomach Acid
10. Lactose and/or fructose intolerance
11. Intestinal Permeability

These are other common symptoms or conditions a patient has which is now also scientifically associated with SIBO:

1. Restless Leg Syndrome
2. Rosacea
3. Parkinson's
4. Rheumatoid Arthritis
5. Fibromyalgia
6. Acne Vulgaris
7. Chronic Fatigue Syndrome
8. Inflammatory Bowel Disease—Crohn's and Ulcerative Colitis
9. Chronic Pelvic Pain
10. Fatty Liver
11. Chronic Prostatitis
12. Lyme Disease
13. Infertility

14. Interstitial Cystitis
15. Scleroderma
16. Hypothyroidism
17. Chronic Renal Failure
18. Etc!

This is because if the intestine is unhappy then the entire systemic body can be harmed—even depression, anxiety is associated with damaged gut functioning.

When a patient comes to me, if I hear they have bloating/gas, constipation/diarrhea AND one or more of these add on facts, SIBO is going to be my primary diagnosis to check into:

1. Antibiotics temporarily make symptoms dissipate
2. Gut symptoms are worse typical over the counter probiotics
3. Fiber worsens gut symptoms
4. Had terrible reaction to PPIs, developing stomach problems, belching, food intolerance
5. Patient developed chronic constipation after opiates
6. Patient has chronic low iron

When a patient comes to me with the above, I am going to do a SIBO Breath Test.

This is a very special breath test which requires the patient to eat a certain way for a day before and then do multiple breath test collections for three hours. The kit is then sent to Commonwealth, Labs for analysis and I have the results usually within 3 days.

You need to ensure your physician is really good at analyzing SIBO breath tests, as they can come back in many different ways. A breath test may show:

1. Normal elevations of hydrogen and methane—NORMAL negative test
2. High hydrogen gas
3. High methane gas
4. Both high methane and hydrogen gas
5. Flatline hydrogen and methane showing hydrogen sulfide
6. Baseline high of hydrogen and/or methane showing either preparation for the test was not good or perhaps severe elevation of gasses in gut

Interpreting a SIBO breath test requires an experienced physician who is familiar with the multiple ways a test can come back and how it reflects the patient presentation.

Btw, with patients for whom I feel it is urgent to do a SIBO test, I am also going to do a Food Allergy Test, a Stool Analysis (to check for colonic health), and give a Candida Questionnaire. We need to ensure we are uncovering all the weaknesses in the entire gut and reversing them and bringing the gut and person back to health.

When a patient is positive for SIBO, there is a complicated treatment for it.

First, we need to kill the bacteria in the small intestine. (See SIBO Treatment Sheet #1)

After we do a dosing of the antimicrobial treatment, we must absolutely redo the SIBO breath test to ensure all the bacteria are eradicated. They are not always eradicated at first. We may need more than one treatment to kill the bacteria. But, we need to ensure the bacteria are gone before we move on to the second part of the healing process. Many doctors do not do the retesting and I do not agree with that at all. If the bacteria are not gone, then the likelihood of a patient having an exacerbation is very, very high.

We then move to institute a low disaccharide diet AND heal the gut lining AND heal the ICC nerve cells AND use a prokinetic. (See SIBO Treatment Sheet #2) What is a prokinetic? It is an agent which artificially moves the gut forward since the MMC is not doing it due to damage. If a prokinetic is not used, the likelihood of colonic bacteria washing again into the small intestine requiring us to go back to the first step of treatment is nearly 100%. There are several options for which type of prokinetic to use alone or in combination.

It can take 1-2 months for the intestinal permeability to heal up, but it can take many months for the MMC to heal. We can open up the diet bit by bit before we can stop the prokinetic, which a person may need to stay on for years. But, that's okay—they are safe and do keep recurrences of SIBO from occurring.

You can see that SIBO is a complicated condition, and so you want to make sure you go to a physician who is Knowledgeable and Experienced in it. Dr. Mona Morstein has lectured on SIBO at medical conferences and has a gut oriented medical practice whereby she sees this condition all the time.

If you have chronic gas/bloating, you need to schedule an appointment with Dr. Morstein as you may have SIBO!
