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Integrative Medicine

USA

Saturday, June 9, 2018

(Room 12)

11:00 - 11:55 WS #119: The Functional Medicine Approach to Gut Health

12:05 - 13:00 WS #131: The Functional Medicine Approach to Gut Health
(Repeated)



FUNCTIONAL MEDICINE APPROACH TO GUT HEALTH

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DISCLAIMERS

- Nothing to disclose
- I have no financial interest associated it this session.



OUTLINE

- Background
 - Functional assessment
 - Treatment of gut dysfunction
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- ❖ **Pearls along the way**



FUNCTIONAL MEDICINE

A systems-biology based approach addressing the underlying cause of disease, engaging the therapeutic relationship between the patient and practitioner



WHY IS THE GUT IMPORTANT???

- Usually the first site of contact with pathogens and nutrients
- Produces $\frac{3}{4}$ of body's neurotransmitters
- Gut-associated lymphoid tissue (GALT) represents 70% of the immune system
- Contains more cells than the rest of the body combined
- Unhealthy gut can lead to inflammatory and autoimmune disorders (IBD, eczema, arthritis, depression, chronic fatigue, FMG, SLE, DM, etc)



PRIMARY FUNCTIONS

- Digestion & Absorption: initiates, organizes, and coordinates metabolism of nutrients
- Immune function: differentiates friend from foe
- Elimination of waste



FUNCTIONAL ASSESSMENT OF THE GUT



DIGIN

- **D**igestion/absorption
- **I**ntestinal Permeability
- **G**ut microbiota
- **I**mmune/inflammation
- **N**ervous system



DIGESTION/ABSORPTION

- Mechanical breakdown
- Enzyme hydrolysis of carbs, proteins, fats
- Active and passive absorption
- Regulated by CNS and ENS



IMPAIRMENTS OF DIGESTION/ABSORPTION

- Inadequate mastication
- Hypochlorhydria
- Pancreatic insufficiency
- Bile insufficiency
- Brush border injury



INTESTINAL PERMEABILITY

Affected by:

- Diet (including EtOH, caffeine)
- Food sensitivity/allergy
- Stress (including excess exercise)
- Toxins
- Infections
- Meds (NSAIDs, antacids, abx)
- Low stomach acid
- Systemic dz



GUT MICROBIOTA

- Symbiosis, balance, diversity
- Can modulate neurotrophins and proteins involved with neuroplasticity
- Can modulate perception of pain
- Affects permeability, immune function, cell signaling, etc
- Can be modified by
 - Diet
 - Fecal transplant
 - Antibiotics



IMMUNE MODULATION/INFLAMMATION

- GALT in Peyer's patches and mesenteric lymph nodes
 - 1st line of defense
 - Determine friend or foe
 - Initiate and sustain appropriate immune response
- Secretory IgA



ENTERIC NERVOUS SYSTEM

- 2-way gut-brain connection
- Modulates:
 - GI motility
 - Visceral perception
 - GI secretions
 - Intestinal permeability
 - Regenerative capacity of GI mucosa
 - Gut microbiota



DIGIN

- Digestion/absorption
- Intestinal Permeability
- Gut microbiota
- Immune/inflammation
- Nervous system



TREATMENT OF GI DYSFUNCTION



THE 5R APPROACH

- Remove
- Replace
- Reinoculate
- Repair
- Rebalance



REMOVE

- Remove offending agents
 - Sugar
 - Processed foods
 - Tobacco/EtOH
 - Chemicals
 - Drugs
 - Yeast
 - Bacteria
- Consider an elimination diet
 - Most common allergens: gluten, dairy, nuts, soy, eggs, citrus



GENERAL DETOX

- Lemon juice/apple cider vinegar
- Celery, parsley, cilantro
- Sauna



REPLACE

- Replace HCl, bile salts, digestive enzymes
- Betaine HCl with pepsin
- ❖ **1tsp lemon juice or apple cider vinegar in water before/during meals**
- Careful in PUD



HYPOCHLORHYDRIA/ACHLORHYDRIA

○ Symptoms

- Gas/bloating/belching after meals
- Indigestion
- Reflux, heartburn
- Bad breath

○ Signs of poor absorption

- Brittle hair/nails
- Hair loss
- Dry skin
- Dandruff



TESTING FOR HYPOCHLORHYDRIA

- Heidelberg test
- Betaine HCl challenge
- Baking soda test

OTHER CLUES

- ❖ **BUN < 13 poor absorption of protein**
- ❖ **BUN > 20 hypochlorhydria causing excess nitrogenous waste**
- ❖ **Cl < 100**



REINOCULATE

○ Probiotic foods:

- Yogurt
- Kefir
- Sauerkraut
- Kimchi
- Tofu
- Miso
- Tempeh
- Kombucha

○ Prebiotic foods:

- Artichoke
- Leeks
- Onions
- Garlic
- Soy
- Grains (barley, flax, oats, wheat)



REPAIR

- Glutamine
- Aloe vera juice
 - ❖ **Aloe vera gel for GI healing**
 - ❖ **Aloe vera latex to treat constipation**
- Vitamin C
- Ginger tea/soup



REBALANCE

- Lifestyle and stress management
- Replace nutrients
 - Zn
 - Ca/Mag citrate
 - Vit C
 - Vit B12
- ❖ **Absorption: IM > powder > capsules > tablets**



GENERAL APPROACH

❖ **Get a 24hr diet history**

- Eating habits
 - Financial and social situation
 - Likes/dislikes
 - Memory test
- Use diet as a springboard for further discussion and motivation
 - Crowd out: Add in vs take away
 - Small action steps



KEEP IT SIMPLE

- ❖ Remove offending agents
- ❖ Replace: 1 tsp lemon juice or apple cider vinegar with meals
- ❖ Reinoculate: plain greek yogurt
- ❖ Repair: aloe vera juice, ginger, +/- glutamine
- ❖ Rebalance lifestyle



RECAP

- Start with the gut.
- DIGIN assessment
 - Digestion/Absorption
 - Intestinal Permeability
 - Gut Microbiota
 - Immune modulation
 - Nervous System
- 5R approach
 - Remove
 - Replace
 - Reinoculate
 - Repair
 - Rebalance

