Pathology and Nutrition

Digestive Pathologies

- Structural
  - dynamic (ex. sliding hernia)
  - neoplastic (ex: esophageal cancer)
  - other (ex: diverticulosis, ulcer)
- Chemical
  - inflammatory (ex.: gastritis)
  - auto-immune/allergic (ex: Celiac disease)

GERD
- Gastro-esophageal reflux disorder

Clinical aspect: regurgitation of stomach contents, burning throat and esophagus after meals (esophagitis)

Etiological factors:
- hiatal hernia
- over-eating
- food intolerance/allergy
- under-active stomach

Etiologies of Hiatal Hernia

- pregnancy (3rd trimester)
- congenital
- heavy lifting
- straining (difficult bowel movements)
- obesity
- chronic coughing or sneezing
HCl Imbalance in GERD

Underactive stomach (Hypochlorhydria)
- acid reflux
- heartburn
- fullness, bloating
- burping, intestinal gas

Resolved by: acids and enzymes (but not enzymes alone)
= 9/10 cases of GERD

Overactive Stomach (1/10) (Hyperchlorhydria)
- acid reflux
- heartburn before OR after meals
- aggravated by spices, tomatoes, alcohol, caffeine, acids, milk products, supplementary enzymes

Relieved by:
- lying on left side
- taking antacids

Tip: over-activity may be an allergic response as histamine triggers stomach acid secretion

Side Effects: Case Study
- 68 y.o. female
- chief complaint: brittle, breaking nails
- history of acid reflux
- takes Losec for GERD

Recommendations?

Peptic Ulcer Disease (PUD)
- erosion of stomach or duodenal lining

Clinical aspect:
- ‘gnawing’ stomach pain before or after eating
- black, tarry stools
- regurgitations like “ground coffee”

Etiological Factors in Ulcers

Associated with:
- helicobacter pylori infection

Risk factors:
- smoking
- stress
- Heredity
- NSAID use (over-the-counter painkillers)
  - Non-steroidal anti-inflammatory drugs

Ulcer: Dietary Protocol

Restrictions:
- salt
- sugar
- fat
- animal protein
- acids
- abrasive foods
- caffeine or alcohol
- milk
- ‘hot’ spices (gingerroot, cayenne, etc.)
- raw garlic and onions
- large meals

Therapeutic foods:
- cabbage
- carrots
- okra*
- asparagus*
- zucchini*
- rice
- cooked onions and garlic
  *= mucilaginous
Supplements During Ulceration

• Glutamine powder (5 – 15 g daily)
• Aloe vera gel (1-8 oz. NOT whole leaf)
• Zinc carnosine 30mg x2
• Licorice root tea
• Marshmallow root tea
• Vitamin A 10,000-30,000 i.u. * avoid if pregnant

Glutamine’s Benefits

• preferred fuel for healthy intestinal mucosal cell division (GALT)
• enhances efficiency of intestinal barrier
• protects against free radical damage
• builds immune function (precursor to glutathione)
• supports healing

Supplements NOT Recommended in Ulcer

• proteolytic enzymes (contain proteases)
• bromelain and papain
• betaine HCl
• “regular” vitamin C (unbuffered)

Lower GI Tract Pathologies

Etiologies of Diarrhea

Acute:
• food poisoning
• influenza
• excessive fruit consumption

Chronic:
• nervous disorder
• food intolerance/allergy
• parasitic infection
• dysbiosis
• B vitamin deficiencies (B12, B3)

Diarrhea is the frequent, urgent evacuation of watery stool
Complications of Diarrhea

- dehydration
- electrolyte deficiencies (Na, K)
- weight loss
- weakness, fatigue
- hypotension
- cardiac arrhythmia
- death (if salts and water not replenished)

Constipation

Etiologies:
- lack of fibre
- lack of water
- lack of exercise
- morphine/codeine use
- stress
- Mg deficiency

Complications:
- hemorrhoids
- enlarged veins of the anus that may protrude, itch and bleed
- diverticular disease
- hypercholesterolemia
- intestinal obstruction

Recommendations

Acute Diarrhea:
- Drink salted water
- Alternate with coconut water
- BRATs diet
- probiotics

Chronic:
- medical investigation to rule out worst case scenario
- Dysbiosis protocol

Constipation:
- increase soluble fibre
- increase insoluble fibres
- exercise, massage
- digestive enzymes
- probiotics
- relaxation, breathing
- Dysbiosis protocol

Factors which contribute to Dysbiosis

- antibiotics
- the pill
- diet high in refined sugars, starches
- over-eating
- alcohol consumption
- incomplete digestion
- under-active immune system

Dysbiosis

- an overgrowth of unfriendly, potentially pathogenic organisms in the bowel
- characterized by gas bloating, cramping diarrhea or constipation

Dysbiosis Protocol

4 Rs:
- remove
- replace
- repair
- re-introduce
Remove
Part 1: Irritating and allergenic foods:
– gluten and yeast
– corn, possibly soy
– milk products
– sugar
– caffeine, alcohol
– synthetic food additives

Remove (cont’d)
Part 2:
After 1 week on elimination diet, remove:
• pathogenic microbes (yeast, bacteria, etc.)
  – use anti-microbial substances**

**Do not use these in active (bleeding) Crohn’s/colitis.

Replace
• Digestive acids (lemon, betaine hydrochloride)
• Digestive enzymes (full spectrum)
• Nutrient-dense, fresh, whole foods

Repair
Occurs naturally (10 days – 4 weeks) when:
• adequate nutrition provided
• abstinence from offensive foods
• reduction of unfriendly organisms

Extra support:
• L-glutamine powder (1-3 tsp daily)
• aloe vera gel (1-8 oz. daily)

Re-introduce
1) Friendly bacteria (acidophilus, bifidus, etc.)
   - replenish the gut for 5 days before re-intro of:
2) the suspect foods: one by one (if appropriate).*

*leave 24 hours between re-intro’d foods if non-reactive and 3 days between if reactive.

GI Conditions Benefiting from The Dysbiosis Protocol
• GERD
• Ulcer*
• Chronic diarrhea
• Chronic constipation
• IBS
• Diverticulosis
• Crohn’s disease*
• Ulcerative colitis* *extra care must be taken
Diverticulosis

http://www.merck.com/media/mmhe2/figures/fg128_1.gif

Comparison of Diverticular Diseases

**Diverticulosis**
- a permanent condition
- common in western peoples age 50+

**Clinical aspect:**
- chronic constipation
- bowels never feel completely empty

**Diverticulitis**
- acute or chronic inflammation due to infection of diverticuli; diverticulosis pre-existing

**Clinical aspect:**
- fever
- left sided abdominal pain
- bloating, distension
- difficult bowel movements

Preventing Diverticulitis

Priorities:
- Avoid: sugars, small seeds
- Consume: soluble fibres, probiotics
- Promote: regular elimination

#1: Underactive immune protocol and/or:
#2: Dysbiosis protocol

Irritable Bowel Syndrome

**Clinical presentation:**
- gas
- bloating
- cramping
- constipation and/or diarrhea
- anxiety/depression/stressed

-diagnosed by exclusion of other GI pathologies

Etiological Factors in IBS

- Maldigestion
- Food intolerance
- Yeast overgrowth (dysbiosis)
- Anxiety/stress

Intestinal Symptom Comparison

**IBS** (Irritable Bowel Syndrome)
- gas
- bloating
- cramping
- constipation and/or diarrhea
- anxiety/depression
- no morphological changes
- no bleeding

**IBD** (Inflammatory Bowel Disease)
- gas
- bloating
- cramping
- diarrhea
- anxiety/depression
- inflammation
- morphological changes
- may involve bloody stools
Celiac Disease

Clinical Presentation

Bowel movements (feces) are:
- Frequent
- Foul
- Fatty
- Floating

Abdominal bloating, cramping, pain

Complications

- Malabsorption
- Weight loss
- Depression
- Anemia
- Osteoporosis
- Leukemia
- Colon cancer

Grains in Celiac Disease

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<th>Forbidden to Eat</th>
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<td>Rice</td>
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<td>Corn</td>
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</table>

*must be certified GF

Inflammatory Bowel Diseases

For more information, visit:
- [Inflammatory Bowel Disease](http://www.healingwell.com/images/illustrations/crohns2.jpg)
- [Celiac Disease](http://depts.washington.edu/drrpt/2003/stories/researchpics/villi.jpg)
- [Inflammatory Bowel Diseases](http://www.geriatricsyllabus.com/syllabus/imgs_content/gastro4.gif)
**Comparison**

**Crohn’s**
- deep inflammation
- (muscle layer affected)
- narrowing of intestine
- small and large intestines affected
- patchy inflammation
- involves granulomas (concentrations of wbc's)
- "incurable"

**Ulcerative colitis**
- shallow inflammation (mucosa only)
- only large intestine affected
- continuous inflammation
- risk of colon cancer
- possible granulomas
- 'curable' w/surgery

**Morphological changes**

![Crohn's](www.medgadget.com)
![Ulcerative Colitis](www.advances-in-medicine.com)

**Etiologies of IBD**

- officially “idiopathic” (cause unknown)

Aggravators:
- refined sugars
- animal fat
- milk
- omega-6

**Case Study: 47 yr old female with Crohn’s diagnosis**

**Clinical aspect:**
- abdominal cramps/pain
- bloody diarrhea, 5-7 x daily
- fever
- weight loss
- fatigue
- anemia
- loss of appetite
- sore joints
- skin rashes

**Colon Cancer**

(carcinoma of the colon)

**Risk factors:**
- low fibre diet
- meat-based diet
- constipation
- gallbladder removal
- **ulcerative colitis**
- folic acid and vitamin D insufficiencies

**Recommendations**

**Priorities:**
- Over-active immune protocol
- Ulceration protocol

**Additional:**
- protein supplement
- calcium supplement
- vitamin D 1,000-3,000 i.u.
- folic acid 1 mg
- iron (if bleeding)
- vitamin A (ACEZ, for healing)
Signs and Symptoms

- blood in stool
- continual right sided abdominal pain
- and/or: pencil-thin feces (left sided)
- painful bowel movements
- Client must consult a medical professional

Colon Cancer Prevention

- High-fibre diet (30-40 grams daily)
  - Combination of soluble and insoluble fibers
- Daily consumption of probiotic-containing foods or supplements
  - plain yogurt or kefir
  - sauerkraut, miso, etc.
- Adequate vitamin D, folate status (5-MTHF)
- At least 1 well-formed bowel movement daily