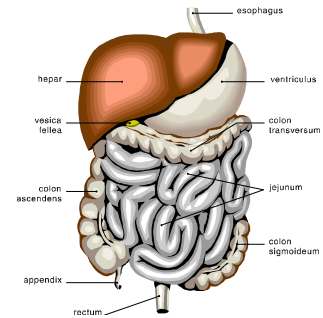


Pathology and Nutrition

Digestive Pathologies



Digestive Pathologies

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

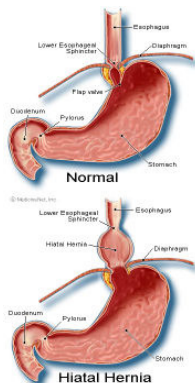
GERD

= 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



http://wiki.case.edu/images/thumb/7/77/Stomach_diagram.jpg/180px-Stomach_diagram.jpg

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

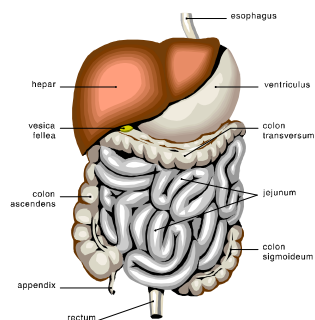
Glutamine's Benefits

- 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

Dysbiosis

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



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 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

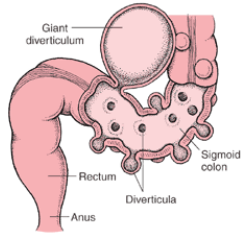
- 1) Friendly bacteria (acidophilus, bifidus, etc.)
 - replenish the gut for 5 days before re-intro of:
 - 2) the suspect foods: one by one (if appropriate).*
- *leave 24 hours between re-intro'd foods if non-reactive and 3 days between if reactive.

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/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

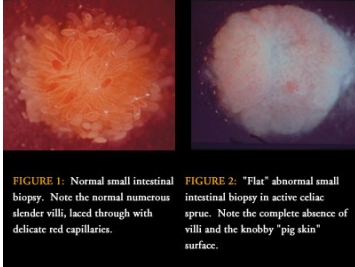


FIGURE 1: Normal small intestinal biopsy. Note the normal numerous slender villi, laced through with delicate red capillaries.

FIGURE 2: "Flat" abnormal small intestinal biopsy in active celiac sprue. Note the complete absence of villi and the knobly "pig skin" surface.

<http://depts.washington.edu/drrpt/2003/stories/researchpics/villi.jpg>

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

Safe to Eat

Oats*
Buckwheat
Quinoa
Amaranth
Teff
Millet
Rice
Corn

*must be certified GF

Forbidden to Eat

Wheat
Spelt
Kamut
Barley
Rye
Triticale

Features of Inflammatory Bowel Disease

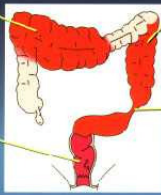
Colon - Crohn's and Ulcerative Colitis

Toxic Disease
High fever
Distension
Pain

Diffuse Disease
Diarrhea
Bleeding
Fever
Malaise

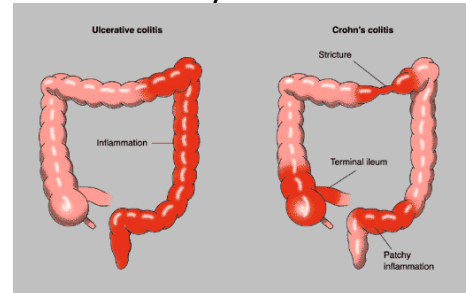
Rectal Disease
Urgency
Pain
Bleeding

Stricture
Distension
Pain/Cramps
Loud bowel sounds
Changes in bowel habits



<http://www.healingwell.com/images/illustrations/crohns2.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

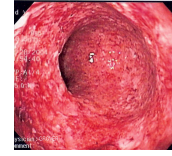
- shallow inflammation (mucosa only)
- only large intestine affected
- continuous inflammation
- risk of colon cancer
- possible granulomas
- 'curable' w/surgery

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

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)

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

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