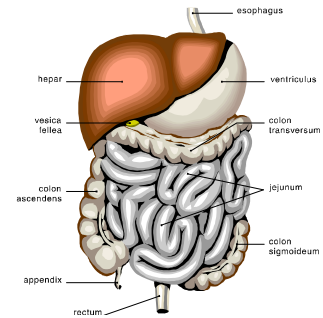


Pathology and Nutrition

Digestive Pathologies



Digestive Etiologies

- 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)

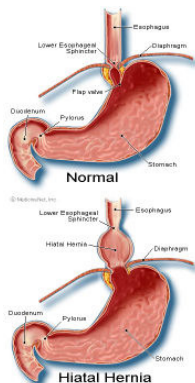
GERD

= 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
- hypochlorhydria

Risk factors:

- smoking
- stress
- heredity

Ulcer: Dietary Protocol

Restrictions:

- salt
- sugar
- fat
- animal protein
- acids
- abrasive foods
- caffeine or alcohol
- milk
- 'hot' spices, raw garlic and onions
- large meals

Therapeutic foods:

- cabbage
- carrots
- okra
- asparagus
- zucchini
- rice
- *cooked* onions and garlic

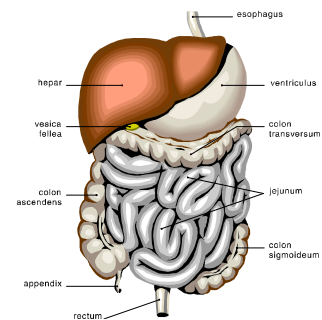
Ulcer Supplements

- 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

Supplements NOT Recommended in Ulcer

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

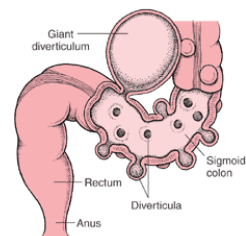
Lower GI Tract Pathologies



Helping You Study the Pathologies

- Is it systemic or localized?
- Is it acute or chronic?
- Is inflammation involved?
- Under-activity or over-activity?
- Is it degenerative?
- Who is at risk?
- What happens if left untreated?
- Is it a medical emergency?

Diverticulosis



http://www.merck.com/media/mmhe2/figures/fig128_1.gif

Preventing Diverticulitis

- avoid sugars
- soluble fibres
- avoid small seeds
- immune system support
- take probiotics

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

Etiologies of Constipation

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

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

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

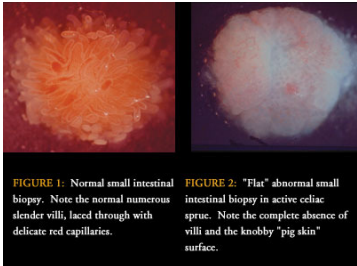


FIGURE 1: Normal small intestinal biopsy. Note the normal numerous slender villi, laced through with delicate red capillaries.

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 Aspect

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

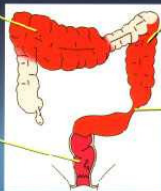
Colon - Crohn's and Ulcerative Colitis

Toxic Disease
High fever
Distension
Pain

Diffuse Disease
Diarrhea
Bleeding
Fever
Malaise

Rectal Disease
Urgency
Pain
Bleeding

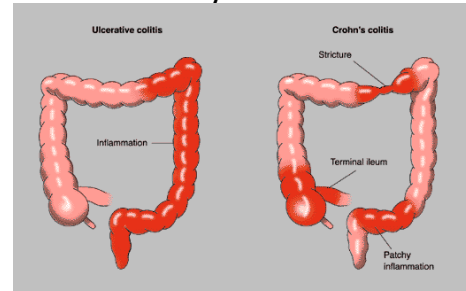
Stricture
Distension
Pain/Cramps
Loud bowel sounds
Changes in bowel habits



CCA

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

Inflammatory Bowel Diseases



http://www.geriatricsyllabus.com/syllabus/imgs_content/gastro4.gif

Comparison

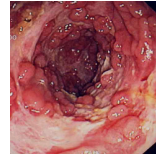
Crohn's

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

Ulcerative colitis

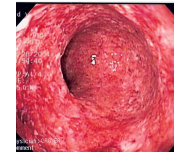
- shallow inflammation (mucosa only)
- only large intestine affected
- continuous inflammation
- risk of colon cancer
- possible granulomas
- 'curable' w/surgery

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
- fever
- weight loss
- fatigue (anemia)
- loss of appetite
- sore joints
- skin rashes

Recommendations:

- probiotics
- fish oil liquid
- protein powder
- glutamine powder
- iron
- curcumin
- folic acid 5mg
- anti-inflammatory diet

Nutritional Protocol for IBD

- Anti-inflammatory diet
- protein supplement
- calcium supplement
- vitamin D 1000 i.u.
- folic acid 1 mg
- iron (if bleeding)
- vitamin A (ACEZ, for healing)

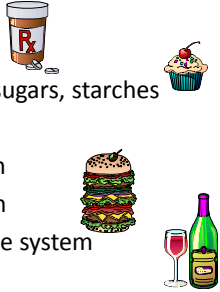
Dysbiosis

- 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

- Irritating and allergenic foods:
 - Gluten and yeast
 - Milk products
 - Sugar
 - caffeine, alcohol
 - Synthetic food additives

Remove (cont'd)

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:

- glutamine

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

Re-introduce

- 1) Friendly bacteria (acidophilus, bifidus, etc.)
-blitz 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.

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

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 status
- At least 1 well-formed bowel movement daily