Diagnostics in Inflammatory Bowel Disease

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**DIAGNOSTICS: HOW TO MAKE A DIAGNOSIS**

- **History taking** is the key to making a correct diagnosis.

- If you **listen** very carefully to what the patient is saying, you will be on the right path to making the appropriate diagnosis. Let the patient talk, not the doctor.

- A correct diagnosis will lead to the appropriate treatment.

- In wrong diagnosis leads to inappropriate treatment, and possibly harm.
THE 20 QUESTIONS GAME

- What are your symptoms?
- What are the precipitants?
- What relieves it? What exacerbates it?
- Where is the pain? (location)
- How long have you had it? What is the pattern of the pain (intermittent/constant?) What is the intensity (1/10-10/10)
- When did the pain start? (duration)
- What are the associated symptoms? (fever, chills, diarrhea, urgency, tenesmus, arthritis, uveitis, skin lesions)
- Is there a family history?
Doc: what is my diagnosis... my symptoms are: abdominal pain, weight loss, diarrhea, urgency, nausea, cramps, joint pains.

- The differential includes: (Key: The doc needs to broaden the diagnostic categories to avoid an error)
  - A) Ulcerative colitis
  - B) Crohn’s disease
  - C) Infectious colitis: Amoeba, Guardia, Shigella, Salmonella, E. Coli, Campylobacter, viral
  - D) Ischemic colitis
  - E) Malabsorption (celiac disease, lactose/sorbitol intolerance)
  - F) Irritable bowel syndrome
The Physical Exam (Localized vs. general)

What to look for:

- **Appearance:** Ill appearing? Pale? Wasted? Depressed, anxious? Who comes with the patient?
- **Vital Signs** (looking at heart rate and BP): dehydration? infection?
- **Abdominal exam:** Is there distention? Is there a mass? Is there tenderness? and location? What is the response to palpation, percussion?
- **Other parts of exam:** Hint: Is there jaundice, is there adenopathy? Lungs: are they clear Cor: Is there a murmur: Extremities: is there edema? Is there joint swelling? Skin: lesions

The examining hand
TEST TIME:  HOW GOOD ARE THEY?

- What are the right test for your symptoms?
- How accurate is the test in helping to make a diagnosis?
- Is it sensitive? (If you have a disease, will the test pick it up? Is it specific? (If you do not have a disease, the test be should be negative)
- What are the potential dangers of the test?
- What are the benefits?
- What happens if I do not want to undergo the test?
- What if the test is normal, am I going crazy?

- These questions need to be asked to your doctor
Common Blood tests:

- **LABS**: COMPLETE BLOOD COUNT looking for anemia (bleeding) infection, inflammation.

- **ELECTROLYTES**: looking for low sodium, low potassium, dehydration-renal indices

- **PANEL**: looking for malnutrition, (albumin, cholesterol), nutritional deficiencies (calcium, phosphorus) which could lead to other blood tests ie. Vitamin levels (A,D,E) and other trace minerals (zinc, selenium)
The Radiographic tests (the referral and pre-certification game)

- The KUB (Abdominal pain film):
- The UGI/SBFT series
- The Barium enema
- CT Scan (abdomen, pelvis)
- CT enterography
- MRI
Radiology tests

- Simple X-ray of abdomen
- Helps to evaluate air pattern of small bowel and colon
- Can evaluate mucosa of colon, ?ischemia or edema
- Can help to r/o obstruction or megacolon
UGI Series with SBFT

- **Pros:** Excellent test to outline small intestine.
- Able to diagnosis ileitis, malabsorption, small bowel obstruction, fistulas and to determine extent of inflammation
- **Cons:**
- Involves radiation
- Need to drink 1-2 liters of barium
- May take several hours, radiologist find this time consuming.
BARIUM ENEMA

**Pros:** Able to diagnosis inflammation and strictures of colon. Able to bring the x-ray to your MD.

**Cons:** Requires Prep
- Unable to perform biopsies.
- Uncomfortable, no meds are given.
CT scans of abdomen and pelvis

- Excellent test to evaluate for inflammation of small bowel and colon.
- Excellent test to evaluate for fistula and abscesses.
- May pick up other abnormalities, now what?
- Usually needs IV and PO contrast.
- Tends to be the gold standard.
Virtual colonoscopy

The facts:

- Still requires a Prep
- No anesthesia
- *Unable to take biopsies* - key problem.
- Helps if unable to complete colonoscopy.
- Not covered by insurance if for screening for cancer.
“I always wanted to climb into a BIG magnet”

**USES**

- Very helpful to define fistulas and abscesses
- Helpful to define masses in liver, spleen, pancreas, kidneys
- Not very good at looking at small bowel or colon mucosa.
- Usually needs contrast (po or IV)
ENDOSCOPIC TEST - the Gastroenterologist delight

- Upper endoscopy
- Colonoscopy
- Capsule study
- ERCP (Endoscopic retrograde cholangiopancreatography)
- Single or double balloon enteroscopy
The scope: is it useful for IBD?

To scope or not to scope

Bottom line:

- Advantages: Excellent visualization of colon, able to take biopsies. (gold standard) and make definitive diagnosis.

- Disadvantages: Requires Prep, need for anesthesia (ie. Versed, Fentanyl, or Propofol), risk of perforation (small)
Endoscopic photo of IBD- a primer

**Crohns disease:** usually not continuous from rectum to cecum, Skip Lesions, pseudopolyps

**Ulcerative colitis:** usually continuous from rectum proximally, no skip area
ERCP (Endoscopic Retrograde Cholangio-Pancreatography)

- Endoscopic test used to evaluate the biliary tree (intra-extra hepatic ducts) and pancreatic duct.
- Since patients with IBD may have an increased incidence in sclerosing cholangitis (stricturing of biliary tree)
- May be helpful to r/o common bile duct stone or masses.
- May be helpful for pancreatic masses.
Given Capsule: Pill cam

Indications:

- Occult blood loss, malabsorption, iron deficiency.
- Evaluation of small bowel to detected if inflamed, or presence of superficial ulcerations.
- Does early diagnosis lead to better treatment and affect prognosis? (unclear)

- BUT: not all ulcerations are crohn’s disease. May over diagnosis IBD
LESS COMMON BLOOD TESTS? SHOULD THEY BE USED IMMEDIATELY?

- **ASCA** (anti-Saccharomyces cerevisae IGA/IGG antibodies)
- **ANCA** (anti-neutrophilic cytoplastmic antibody)
- **OmpC** (anti-outer membrane porin C from E. Coli)
  * Not been shown specific enough to distinguish types of IBD (Aetna)
  * Not been shown to be helpful for Indetermine Colitis
  * Not been proven to be useful in selecting therapeutic interventions.
  * Not been demonstrated to correlate with disease activity, duration of illness, extent of disease, extra-intestinal manifestations, surgical or medical treatment.

- **B-CHIR** (anti Cbir 1 flagellin antibody)
- **TPMT**- helps to determine metabolism of Azathioprine or 6-MP
- **6-TGN** and **6-MMPN**- evaluates 6-MP metabolism
- **NOD2/CARD 15**- cytosolic proteins-protective immune response
- **Calprotectin**- excreted in stool, parallels intestinal inflammation

  The higher the number of antibodies, the more inflammatory response.
THE FUTURE OF DIAGNOSTICS IS RAPIDLY APPROACHING

- Will a future blood test (s) definitively make a diagnosis of IBD? Are there subtypes? Does it matter?
- Will blood test help to tailor drug therapy?
- Will that blood test prognosticate complications of IBD?
- Will the results predict natural history?
- Will insurance companies pay for these diagnostic test? (doubt?)
- Will a History and Exam been needed anymore?
"I'll have someone come in and prep you for the bill."