Cost-Effective Work-Up of Acute Diarrhea


UCSF Lab Manual and chief technician UCSF microbiology lab.
UpToDate11.1.

Key Points:

- Clinical symptoms and signs suggesting severe/invasive diarrhea warrant further work-up.
- Fecal WBC and occult blood have poor test characteristics
- Stool cultures and O&P should not be sent >72 hrs after admit, except immunocompromised patients
- Lab manual on STOR can be helpful

- Costs: 200,000 hospitalizations, 1.5 million outpt visits, $1 billion direct costs
- American College of Gastroenterology Guidelines / UpToDate
  - Based on: empiric antibiotic studies 1980s, culture yield studies 1990s, consensus
    - When to evaluate:
      - Profuse watery diarrhea with dehydration
      - Many small volume stools with blood and mucus
      - Passage of >=6 unformed stools / 24 hrs or illness >48 hrs
      - T >=38.5C
      - Severe abdominal pain in patient >50 years old
      - Diarrhea in elderly (>70) or immunocompromised
  - Fecal leukocytes and occult blood (sensitivity 20-90%)
    - Meta-analysis WBC: peak sensitivity 70% and specificity 50%
    - Chitkara study (AZ teaching hospital): 3yrs, 3072 pts, 40% sensitivity, 20% predictive value
    - Still in the official guidelines
  - Stool cultures: on initial presentation if
    - Immunocompromised
    - Comorbidities increasing risk for complications
    - IBD to distinguish flare from infection
    - Food handlers for return to work
  - Endoscopy
    - IBD
    - C diff (? risk of perforation)
    - Immunocompromised patients
    - Ischemic colitis
  - CT: only for chronic diarrhea (>4 weeks)
    - Bowel thickening, free fluid, lymphadenopathy -> non-specific, present in non-inflammatory and inflammatory diarrheal illnesses

- Stool cultures ($294 charge)
  - Routine: Campylobacter, Salmonella, Shigella
  - Possible: Staph aureus, B. cerus, Aeromonas
  - Specifically order: E. coli O157, Yersinia, Vibrio
  - F/U Salmonella: order limited cx
  - If high clinical suspicion and negative -> order 2nd test 48hrs after
  - >72 hrs after admit: poor yield unless immunocompromised or sx present on admit
  - Chitkara study: repeat cultures rarely useful
    - New rules: 3 mos decreased specimens 38%, increased isolation 12->19%

- Ova & Parasites ($112 charge): not >72hrs after admit
  - Persistent diarrhea (Giardia, Cryptosporidium, Entamoeba)
  - Diarrhea with travel to Russia, Nepal, mountainous regions (Giardia, Cryptosporidium, Cyclospora)
  - Daycare center exposure (Giardia, Cryptosporidium)
  - Man who has sex with men (Giardia, Entamoeba)
  - AIDS
  - Community waterborne outbreak
  - Bloody diarrhea with few or no fecal WBC (intestinal amebiasis)