COMPLICATED DIVERTICULITIS AND MANAGEMENT

Diverticulosis – presence of diverticuli, a false diverticulum, of mucosal herniation covered only by serosa. These are usually at the weak portion of the bowel wall where the vasa recta penetrate. Usual symptoms include bleeding.

1/3 people > 45 yrs
2/3 people > 85 yrs.

Diverticulitis – inflammation of diverticuli. Erosion of diverticular wall, followed by small perforation that then is usually walled off by pericolic fat/mesentery. This may then cause secondary complications -- localized abscess, fistula, obstructions.

Signs & Symptoms

- LLQ pain in 70% of patients (although RLQ pain has been described in 10%)
- Fever
- Leukocytosis
- ausea, Vomiting
- Urinary frequency if bladder/ureter are irritated
- History of pneumaturia or recurrent urinary tract infections (colovesicular fistulas)
- Feculent vaginal discharge (fistulas with the uterus or vagina)
- Severe and generalized abdominal pain (diffuse peritonitis)

Diagnostic Imaging

- CT scan – Evaluates extramural inflammation, as well as abscesses.
- Contrast enema – Used when diagnosis is unclear on CT scan. Gastrograffin is safe and may indicate the site of perforation.
- Endoscopy – Relatively contraindicated in acute diverticulitis, as air insufflation
- may cause a sealed perforation to become a free leak.

Uncomplicated in 75% of first attacks

- Managed by antibiotics successfully in about 80%.
- Should be reevaluated once inflammation cools down, by colonoscopy.
- 25% will have a second acute attack requiring surgery.

Complicated defined as:

- Perforation
- Abscess
- Obstruction
- Fistula

Hinchey classification (of perforated diverticular disease)

- **I** Pericolic abscess
- **IIa** Distant pelvic abscess (amenable to percutaneous drainage)
- **IIb** Complex abscess, often with fistula
- **III** Generalized purulent peritonitis
- **IV** Generalized fecal peritonitis

SURGICAL TREATMENT

Practice Parameters For The Treatment Of Sigmoid Diverticulitis

The Standards Task Force, The American Society of Colon and Rectal Surgeons. 2000; 43(3): 289-297

ELECTIVE/NONURGENT

- Must remove all thickened, diseased colon – but not necessarily all proximal diverticula-bearing colon as long as not hypertrophied
- All of the sigmoid colon should be removed.
- Anastomose to normal rectum. Must be tension-free, well vascularized.

Noncomplicated Diverticulitis (elective)

- Primary resection and anastomosis without a protective stoma

Hinchey I-IIa

- 70-90% can be successfully drained by CT guided drainaged.
- If so, surgical resection is not mandatory – but insufficient data for universal endorsement of this concept.
- Surgical options include:
  - Primary resection and anastomosis – less mortality/morbidity.
  - Resection, primary anastomosis with proximal diverting stoma (colostomy or ileostomy) with later stoma closure -- if relative contraindications to primary anastomosis

EMERGENT

- Resection and diversion are required.
- In selected cases where sepsis can be removed, definitive resection with anastomosis (with or without proximal stoma) may be appropriate.
- On-table colonic lavage recommended.

Hinchey IIb

- Colovesical (48-65%), colovaginal (44%), colocutaneous (4%), coloenteric (2%)
- Resection of the diseased segment of colon, with repair of the contiguous organ.
- In the majority of cases, a primary resection and anastomosis can be performed

Hinchey III-IV, free perforation with 6-35% mortality

- Two-stage procedure (Hartmann's) with initial resection of the diseased segment and proximal fecal diversion for patients with fecal contamination and inflammation.
- Classic three-stage procedure if inflammation prevents resection and anastomosis:
  - transverse colostomy, drainage of paracolic abscess
  - colon resection
  - colostomy reversal
- Associated with a higher mortality (26%)

SPECIAL CONSIDERATIONS:

- **Recurrent Attacks**
  - Increased adhesions & higher probability of fistulas making surgery more difficult.
  - With each recurrent episode the patient is less likely to respond to medical therapy
  - (70 % respond to medical therapy after the 1st attack vs. 6 % chance after the 3rd).
  - **ASCRS Consensus**: After two attacks of uncomplicated diverticulitis, resection is recommended. Resection may be recommended for patients with complicated diverticulitis after a single attack.

- **"Young" Patients (<50 years old)**
  - Whereas less than 1/3 of patients with diverticular disease require surgery at presentation, it has been suggested that up to 2/3 of young patients require operative intervention at presentation
    - led some to hypothesize "more aggressive" disease.
    - or surgical preference of surgeons in patients who are more likely better surgical candidates with more future chance of 2nd attack.
  - Some surgeons recommend **Elective Resection** in the young patient after **ONE** well-documented episode of uncomplicated diverticulitis??

"Long-term follow-up after first acute episode of sigmoid diverticulitis: is surgery mandatory?: a prospective study of 118 patients". Chautems et al. Diseases of Colon & Rectum. 45(2002):962-6.

- Purpose: evaluate long-term history of patients after first acute episode and role of elective colectomy in patients successful with medical management.
- 144 patients, median follow-up 9.5 years.
- Complications highest (54% at 5 years) for young patients with severe diverticulitis on CT.
- Young age and severe diverticulitis taken separately were both statistically significant factors of poor outcome ($P = 0.007$ and $P = 0.003$, respectively), although age was no longer significant after stratification for disease severity on computed tomography ($P = 0.07$).
- Conclusion: Elective colectomy should be offered to young patients with severe diverticulitis on CT (according to Ambrosetti's criteria).

"Diverticulitis in Young Patients: Is Resection After a Single Attack Always Warranted?" Guzzo and Hyman (UVM). Diseases of Colon & Rectum. 47 (2004): 1187-1191.

- Retrospective chart review of 762 patients (259 young patients)
- 24% young with immediate surgery [similar to 22% of older population]
- Of 196 medically managed, only 41 (16%) had later surgery mostly elective – 1 for perforation.
- Conclusion: Risk of perforation in young patients with medical management is low (0.5%). Advising surgery based on potential "risks" based on younger age does not seem justified. It would be more appropriate to base surgery on further symptoms or recurrent episodes.

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