Nonsurgical Management of Acute Colonic Diverticulitis

Department of Surgery Grand Rounds
Sean Primley PGY-2
University of Colorado and Health Science Center
Incidence of Disease

- Diverticulosis
  - 2/3 of those >85 years old
  - 1/3 of those >45 years old
- Lifetime risk of diverticulitis 10-25%
- 5th in total cost among digestive diseases
Classification

- **Grade I** Symptomatic Uncomplicated disease
  - Fever, Abdominal Pain, CT evidence of Diverticulitis

- **Grade II** Recurrent symptomatic disease
  - Recurrence of Grade I disease

- **Grade III** Complicated disease
  - Hemorrhage, Abscess, Phlegmon, Perforation, Peritonitis, Stricture, Fistula, Obstruction

- European Association for Endoscopic Surgeons classification
Uncomplicated Diverticulitis

- Preventative surgery
  - Elective sigmoid colectomy after 2 attacks of acute diverticulitis for patients older than 50
  - Surgery after 1 attack in patients younger than 50
- Believed to limit emergent procedures, complicated attacks, and the need for colostomy
  - American Society of Colon and Rectal Surgeons (ASCRS) 2000 guidelines
Preventative surgery

- Parks 1969 retrospective review of 521 patients admitted with diverticular disease
  - 25% emergent surgery after successful initial medical therapy
  - Recurrence rate of 30%
  - Mortality at 1st attack: 4.7%, 7.8% at 2nd
  - Decreased response to medical therapy
    - 70% response after 1st attack, 6% after 3rd
Goals

- Provide evidence against elective colectomy
- Diverticulitis in the young is not more virulent
- Improved medical and radiological treatments
Risk of emergent operation

- Patients >50 yo
  - 5% risk of emergent surgery after successful treatment of first attack

- Patients <50 yo
  - 7% risk of emergent surgery after successful treatment of first attack
  - NNT=13 elective colectomies to prevent 1 emergent colectomy/colostomy
    - Anaya et al 2004
Risk of emergent operation

- Alexander, et al 1983
  - 673 patients with diverticulitis
  - 3% required emergent surgery over 10 year period
De Novo Complications

- Somasekar et al, review of 108 patients with complicated diverticulitis. 104 needed emergent operation
  - 26% had known diverticular disease
  - Only 8 were previously admitted once for diverticulitis
  - 3 had two previous episodes
- Even with elective colectomy 92.7% would still have had emergent surgery
De Novo Complications

**FIGURE 2.** History of diverticulitis and development of complicated diverticulitis (overall).

Progression of Disease

- Prospective series of 118 patients
  - 71%: no recurrence of any symptoms
  - In patients with recurrence
    - No complications, or emergency surgeries
      - Chautems et al 2002

- Retrospective review 2366 patients
  - 13% had recurrence
  - Annual recurrence rate on 2% per year
    - Broderick-Villa et al 2005
Risks of elective colectomy for diverticular disease

- Recurrence of disease after colectomy
  - 2.6-10.4%
    - Salem 2004 Am Coll Surg

- Colostomy
  - 11.4%

- Mortality
  - 2.3%
    - Netri 2000 Ann Ital Chir
Risks of Emergent Colectomy

- Mortality, 6.5%
  - Perforation 12% mortality
  - Abscess 1% mortality
- Mortality related to perforation
  - 89% no prior history of diverticulitis
- Morbidity 41%
Young Patients

- Patients <50 yo: a more virulent disease?
  - Emergency surgery rate
  - Higher CT grade
  - More likely recurrence
Young Patients

- Emergency exploration rate
  - No significant difference in emergency exploration in 762 patients
    - 24% <50 yo,
    - 22% >50 yo \( (p=0.8) \)
    - Guzzo et al 2004
Emergency Exploration

762 Patients with Sigmoid Diverticulitis

Group 1
259 pts. ≤ 50 yrs

63 Immediate Surgery (24%)
196 Initial Nonoperative Management (76%)

41 Later Surgery (One Perforation)
155 Never Have Surgery

Group 2
503 pts. > 50 yrs

112 Immediate Surgery (22%)
391 Initial Nonoperative Management (78%)

22 Later Surgery
369 Never Have Surgery
Young Patients

- CT Grade
  - Risk of poor outcome in patients <50 yo or >50 years old was not significant when stratified by CT grade in 118 patients
  - Poor outcome defined as recurrence of symptoms
    - Chautems et al 2002
Young Patients

- Recurrence rate
- Vignati, et al 1995
  - 30 patients with initial medical management <50 yo followed for 5-9 years
    - 10 elective surgeries, no colostomies
    - 20 with no recurrence
- Guzzo, et al 2004
  - 196 <50 yo medically managed initially
    - 80% managed non operatively
    - 1 perforation requiring colostomy
Morbidity, Mortality, and Cost

- ASCRS recommendations compared to expectant management through 4 acute episodes
- >50 yo with medical management
  - 0.5% fewer deaths
  - 0.7% fewer colostomies
  - Cost savings of $1,035 per patient
    - Salem 2004 J Am Coll Surg
Morbidity, Mortality, and Cost

- <50 yo with medical management
  - 0.1% fewer deaths
  - 2% fewer colostomies
  - Cost savings of $5,429 per patient
    - Salem 2004 J Am Coll Surg
Elective Colectomy

- Risk factors for complication
- Limited access to medical care
- Severe recurrent diverticulitis
  - Symptoms/CT grade
- Symptoms between admissions
Improved Medical Therapy: Mesalazine

- Trepsi, et al 166 patient RCT
  - Mesalazine or placebo for 8 weeks
  - Symptomatic Relapse
    - M12 C39 (p<0.001)
  - Diverticular microhemorrhage
    - M12 C31 (p<0.001)
  - Shorter duration of pain in treatment group
    - (p<0.001)
Improved Medical Therapy: Abscess

- Small abscesses <3cm
  - All resolved with antibiotics alone
  - Not all (36%) needed resection after resolution
    - Seiwert et al, 2006

- Mesocolic abscesses
  - 49% did not require surgery after conservative management
    - Ambrosetti et al, 2005

- Successful percutaneous drainage of abscess not associated with recurrence
  - Broderick-Villa et al, 2005
Improved Medical Therapy: Hemorrhage

- Hematochezia, and diverticulosis
- Urgent colonoscopy for diagnosis/treatment.
- 20% with signs of active bleeding
- Those treated at urgent colonoscopy needed no further treatment.
References

References


References


