Management of Complications of Diverticulitis

SUNY Downstate Grand Rounds
October 17, 2013
Case 1

50M h/o diverticulitis, distant splenectomy presents with 4d of diffuse abd pain; Last BM was normal, a day prior; Minimal flatus;

Denies nausea, vomiting, fever or chills;

PMH: diverticulitis
spleenectomy – blunt trauma
Last cscope 5 years ago – diverticulosis

Afebrile, VSS
Abd, distended; Diffusely tender; Midline scar;
cbc 11.6/15/48/522  70%
c7 141/4.0/104/23/12/0.9
ua neg
• Exploratory laparotomy; Large, edematous, large bowel; Severely dilated;

• Moderate lysis of adhesions

• Non-dilated small bowel; few jejunal diverticula;

• Subtotal colectomy, ileosigmoid anastomosis;
POD 1 – Recovering well, no complaints

POD 3 – wbc 17, broad spectrum Abx started

POD 4 – CT demonstrates large LUQ fluid collection
POD 5 - drained percutaneously by IR, Abx started

POD 6 – started on TPN

POD 9 – wbc 32, repeat CT demonstrates smaller new abscess – drained by IR
POD 10 – Wbc trended to normal

POD 12 – Bowel function resumed; Tolerated clear liquid diet
Case 2

- 65 M with left abdominal pain and history of recurrent chronic sigmoid diverticulitis for past 5 years
  - Longstanding colovesical fistula
    - Prior cystoscopy with urine FISH and cytology negative
  - History of multiple pelvic abscesses,
    - Most recent was 3 months ago, bilateral, and drained by IR
  - Colonoscopy 4 years ago negative
• PMH: DM, dyslipidemia
• PSH: no surgery
• Soc hx: h/o 40 pack years but has quit
• NKDA
• Meds: glipizide, lipitor, metamucil
• VS: T=98.2, HR=111, BP=131/77, RR=19
• NAD, AAO
• RRR
• Clear BS b/l
• Abd soft, ND, TTP in LLQ
• Ext – no edema
- CBC: 16.1 / 11.3 / 35.1 / 420, 81% granulocytes
- BMP: 139 / 4.3 / 105 / 23 / 17 / 0.8 / 146
- Coags: 13.4 / 1.3 / 32.1
• CT: new 7.8 cm abscess in left colon; diverticulosis in left colon and sigmoid colon
  – 120 ml purulent drainage on IR pigtail placement
  – Culture: E. coli and VRE
  – Tx: ertapenem, flagyl as per ID
• Echo – moderate mitral regurgitation; EF=35-40%

• Cardiac cath – 70% LAD single vessel disease; medical management recommended
• OR
  – Findings: no masses in bladder, inflamed sigmoid colon
  – Procedure: cystoscopy with bladder biopsy, diverting end descending colon colostomy
  – EBL: minimal
• Ostomy functioned well, diet advanced as tolerated
• PICC placed for 3 weeks of linezolid and ertapenem as per ID
• Discharged home on POD#4
Management of complications of diverticulitis

Introduction
Abscess
Peritonitis
Fistula
Stricture
• “Tics” = outpouchings in defect of longitudinal muscular layer of the colonic wall where vasa recta enter
• Present in 30% population by age 60, and 60% by age 80 in Western world
  – Symptoms in 20%
Uncomplicated
Abdominal pain
Fever
Leukocytosis

Complicated
Abscess (16%)
Perforation (10%)
Stricture (5%)
Fistula (2%)
• Hinchey classification
Principles of surgical management

Control sepsis
Eliminate fistula or intestinal obstruction
Remove diseased colon
Restore intestinal continuity
A.) Abscess

• Treatment
  – Antibiotics, percutaneous drainage if >2 cm
  – Colonoscopy
  – Resection with primary anastomosis
• **A note on extent of resection**
  
  – Benn et al, Mayo Clinic - Distal extent of resection to the top of the rectum vs. distal sigmoid leads to 6.7% vs. 12.5% risk of recurrent diverticulitis
  – Proximal extent to pliable bowel without hypertrophy or inflammation
B.) Peritonitis

- From previously contained abscess or perforated diverticulum
- Treatment
  - Resuscitation & antibiotics
  - Depending on the environment in the abdomen and patient, many surgical options
– If contamination is limited, resection with primary anastomosis, with or without proximal diversion
– Resection with colostomy
– If very unstable, abdominal washout, omental pedicle graft, proximal diversion; as we remember from Dr. Vivas on laparoscopic lavage...
Laparoscopic peritoneal lavage for perforated sigmoid diverticulitis

- Emergent role in the treatment of purulent diverticulitis
- Calculated risk
- Converts an emergency resection to an elective resection
  - or possible no resection
- No randomized trails to date
- Currently 2 randomized trials are being conducted in Europe
- European Association for Endoscopic Surgery consensus statement on ‘Laparoscopy for Abdominal emergencies:
  - Colonic resection remains the gold standard
  - Laparoscopic lavage and drainage may be considered in selected patients
My RCT favors primary anastomosis with diverting ileostomy over colostomy with later reversal due to:
- similar overall complication rate (80% vs. 84%)
- higher stoma reversal rate (90% vs. 57%)
- reduced serious complications (0 vs. 20%)
- less OR time (73 min vs. 183 min)
- lower LOS (6 days vs. 9 days)
- lower cost ($16k vs. $24k)
emergency procedures in life-threatening situations mostly in the middle of the night. In such circumstances, surgeons are not really motivated to include patients in randomized trials. This reflects a recognized problem in clinical research.

Oberkofler et al
C.) Fistula

- Colovesical – most common, in males
- Colovaginal - after hysterectomy
- Coloenteric
- Colocutaneous

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• **Treatment**
  
  – Define the anatomy and exclude other Ddx like cancer, Crohn’s
  – CT, cystoscopy, colonoscopy
  – Resection and primary anastomosis
  – Omental flap to site of fistula
  – Foley drainage and cystogram prior to Foley removal
D.) Stricture

• Treatment
  – Define anatomy and rule out cancer - colonoscopy, barium enema, or virtual colonoscopy
  – Stenting not very successful
  – Resection and primary anastomosis
  – If proximal colon is dilated, resection and colostomy
Although it is more work, one needs to get to where the tenia coli coalesce at the top of the rectum.

What is the distal extent of resection for sigmoid diverticulitis.
Diverticulitis, Crohn’s and cancer may present this way. What is a colovesical fistula.
Surgery for a colovesical fistula for diverticulitis is different from that for cancer in this way.

What is resecting just the sigmoid instead of resecting both sigmoid and bladder en bloc.
Thank you