DIVERTICULOSIS & DIVERTICULITIS

Sep 25 2019
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GI Roundtable Discussions

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True or False?

- People with diverticulosis should avoid seeds, nuts and pop-corn to prevent recurrent attacks. T F
- All patients diagnosed with diverticulitis need antibiotics. T F
- Everybody with a diagnosis of diverticulitis should have a colonoscopy 6-8 weeks later to rule out colonic neoplasia T F
- Resection should be performed after the second episode of diverticulitis. T F

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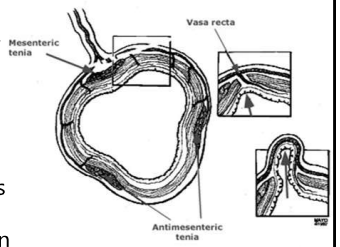
Background

- Usual colonic anatomy
  - *Mucosa: Epithelium, LP, MM*
  - *Submucosa*
  - ***Muscularis:*** *Circular and longitudinal*
  - *Serosa: Outer connective tissue*
- Diverticulum = psuedodivertuclum outpouching of colonic mucosa/submucosa, covered by serosa
  - At sites where vasa recta penetrates the circular muscle layer
  - Left sided/sigmoid- usually found in the West
  - Right sided- usually found in Asia



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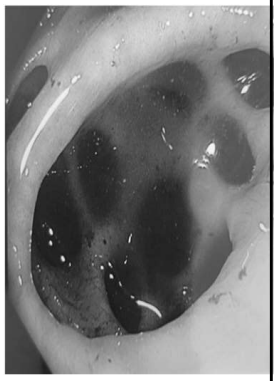
Possible Etiologies

- Dietary fiber
  - *Low fiber diet → long colonic transit time & increased intraluminal pressure*
- Motility
  - *Segmentation theory- series of "little bladders" during contraction leading to excessive intraluminal pressure*
- Colonic wall structure
  - *Increased elastin deposition- age related changes in collagen composition → thickening and shortening of taenia*



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Prevalence & Risk Factors

- Prevalence
  - *20% at age 40 & 60% at age 60*
- Vigorous **physical activity** in a prospective study (n=48000) was found to be protective
  - *RR 0.63 of developing symptomatic diverticular disease (highest exercise group vs. lowest)*
  - *Corrected for dietary fibre and fat*
- **Obesity** associated with increased risk of diverticulitis and diverticular bleeding
- Active **smokers** have increased risk (OR 1.89)
- Higher **Vitamin D** levels associated with decreased need for hospitalization for diverticulitis

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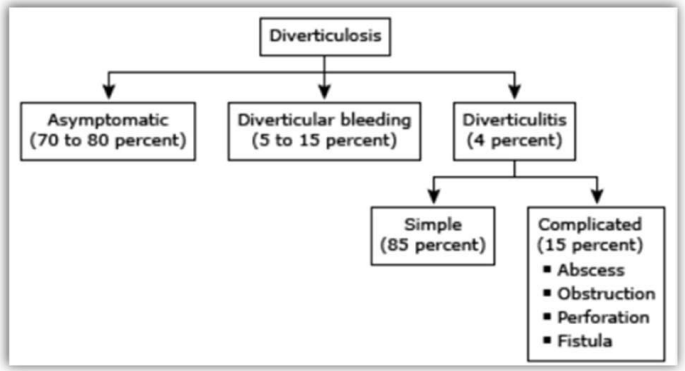
Natural History



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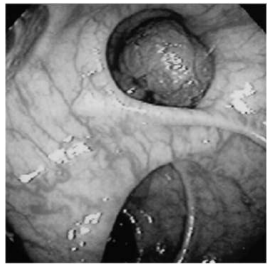
Pathogenesis

- Inspissated stool obstructs neck of diverticulum → inflammation
- Micro/macro perforation of a diverticulum due to increased intraluminal pressure
  - *A small perforation is usually walled off by pericolic fat/mesentary → abscess formation*
  - *A large perforation can lead to peritonitis*
  - *Colonic obstruction can be caused by luminal narrowing from pericolic inflammation and/or abscess*
  - *Complicated diverticulitis may lead to stricture or fistula formation*



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Diagnosis

- Usually presents with abdominal pain +/- fevers +/- change in bowel habit
  - *Pain usually left sided; however, Asian patients with diverticulitis may have right sided pain corresponding to location of their diverticular disease*
- Clinical diagnosis based on history and physical exam
- Confirmation by imaging studies
  - *AXR- may show evidence of obstruction or soft tissue density suggesting abscess*
  - *US abdomen- operator dependent*
  - *CT abdomen- diagnostic procedure of choice*
    - Rule out complications e.g. abscess

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Treatment

- Antibiotics: broad spectrum to cover common organisms eg. E coli, Streptococcus spp. and Bacteroides fragilis
- Mild symptoms in healthy individuals may be treated as outpatients
  - *Amoxicillin/clavulanate, Septra+ metronidazole, fluoroquinolone + metronidazole X7-10 days*
- Elderly, immunocompromized, complicated diverticulitis, high fever/WBC, peritonitis, significant comorbidities
  - *Should be managed as inpatients*
  - *IV antibiotics (need G- & anaerobic coverage) + supportive care*

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Antibiotics for all?

- RCT from Sweden suggested that antibiotics may not be necessary in inpatients with uncomplicated diverticulitis
  - *632pts with CT confirmed left sided diverticulitis admitted and treated with or without Abx*
  - *Complication rates, LOS, recurrence rates similar in groups*
- Questionable applicability
  - *Inpatients: few study patients met criteria for inpatient treatment (ie. our inpatient population tends to be sicker and have complications)*
  - *Outpatients: Study pts received in hospital monitoring and IV fluids (and 10 pts got sicker and required initiation of Abx)*

Chabok A et al. BJS 2012; 2012:532-9

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Surgery

- Abscess will usually require drainage
- Surgery if not responding to medical Rx or if peritonitis present
- Surgery usually recommended electively if complicated episode
  - *Ie. Stricture, fistula; debatable for small abscess*
- Recurrent diverticulitis
  - *Episodes of uncomplicated diverticulitis not necessarily indication for resection*
    - 1/3 of pts will have a second episode, and 1/3 of those will have a 3rd
    - Recurrent episodes usually not more severe
  - *Complicated episodes or underlying patient factors (immunosuppression) more important factors*
  - *Prolonged travel to remote areas where medical care may not be available*

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Seeds & Nuts

- The AGA suggests against advising patients to avoid consumption of nuts and popcorn
- Only study showed modest RR
  - *95% CI 0.55-1.13*

Stollman B et al. AGA 2015; 149:1944-49

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Fibre

- Observational studies suggest may reduce incident (first episode) diverticulitis
  - *Correlation ≠ causation*
- Some evidence for improvement in chronic abdominal pain
- Low-risk intervention
- Endorsed by AGA guidelines

Stollman B et al. AGA 2015; 149:1944-49

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Colonoscopy

- Usual recommendation
  - *Should be performed (at least) 6 weeks later to rule out underlying malignancy*
- Meta-analysis of 17 studies; 3296 patients with left sided diverticulitis
  - *Colonoscopy within 1 year*
  - *ACN (advanced neoplasia): 6.9%*
  - *CRC (colon cancer): 2.1%*
  - *Uncomplicated diverticulitis (subgroup; n=959; 6 studies): 0.5%*
  - *Complicated (subgroup; n=197; 4 studies): 8.3%*
- CRC prevalence in gen. pop. undergoing screening: 0.4-1%
  - *?Need for colonoscopy in uncomplicated cohort*
  - *2.1% rate > baseline risk*
  - *Still recommended by majority of clinical practice guidelines (e.g. AGA)*
  - *Other factors to consider: patient preference; previous endoscopy; co-morbidities; family history*

Rottier SJ et al. BJS 2019; 106:988-997

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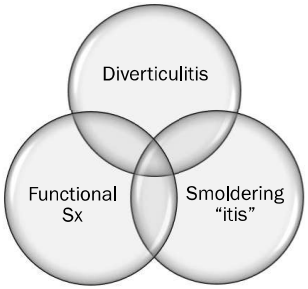
Symptomatic uncomplicated diverticular disease (SUDD)

- Persistent abdominal pain in the absence of overt colitis or diverticulitis
  - *Up to 20% of pts with an episode of diverticulitis have chronic abdominal pain*
- CT can have thickening present in absence of inflammatory changes
  - *AKA smoldering diverticulitis (?low grade inflammatory changes)*
- Functional etiologies:
  - ***Altered motility**: one study showed increase in duration of rhythmic contractile activity*
  - ***Visceral hypersensitivity**: study showed increased pain perception to luminal distention in SUDD pts vs. asymptomatic diverticulosis and healthy controls*
- IBS vs Smoldering Diverticulitis
  - *Not always a clear distinction*



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THANK YOU!

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