

CECAL DIVERTICULITIS

Definition: Inflammation of diverticula caudal to the ileocecal valve

Epidemiology:

- Incidence in West 0.9% - 3.6%
- Percent of diverticulitis:
 - Thailand 35%
 - Singapore 69%
 - Japan 84%
 - USA 12/780
 - Hong Kong 17%
- Increased incidence of diverticulitis in Asia, change in diet, continued right sided
- Genetic role of acquired diverticula

Pathology:

- Colonic wall: mucosa-muscularis, submucosa, muscularis propria, serosa
 - **True:** all layers
 - **False:** mucosa, muscularis mucosa, attenuated submucosa and muscularis propria
- Histologic: superficial mucosal invagination to full thickness protrusion through muscularis propria at vasa recta
- Size: 0.2-1.5cm in diameter
- Anteromedially: 45% Anterolateral: 38% Posteriorly: 17%
- Classic: all layers, wide, solitary (77-81 %), congenital, within 2.0cm of ileocecal valve
- Appendiceal duplication

Pathology: 39 cecal tic all false

Acquired diverticula: false and true

True: pulsion, adhesions, postappendectomy changes of cecum

Manometry: higher pressures in right side in patients with cecal diverticula

True: all layers, 41 % of all cecal diverticula (US literature review)

Microscopic: thickening of inner circular and outer longitudinal muscle, elastosis

Higher intraluminal pressure after neostigmine stimulation in patient with cecal tics

Taeniae shorten haustra, increased haustral folds, increased diverticula

Pieterse: 4 morphologic groups

1. solitary false diverticula, inflamed cecal mass
2. defects in muscularis propria, mean age 30 older than group 1, bowel intraop normal
3. diverticuli similar to left sided
4. true diverticulum

Natural History:

- Inflammation 13% pt with cecal diverticulitis
- Younger patients (40-51) compared to 62 for left sided
- Equal sexes
- Incidence: related to number not location
- US: 1: 1100 projecting 1 :800 hidden laparotomies for acute abdomen
- 5/1750 appendectomies (mass cecal ca)
- Pathology: inspissation of stool, obstruction by fecalith (25-49%), carcinomas,

- polyps
- Complications: phlegmon, abscess, perforation (20%) intra-abdominal, retrocecal, intramesenteric, intramural, sepsis, fistulization, pylephlebitis, obstruction

Diagnosis:

Classic: RLQ pain 86%
 >24hours 73%
 nausea 24%
 emesis 12%
 average WBC 12.6
 Temp <38.3
 Abd mass on PE 26-86%

Appendicitis preop diagnosis in 2/3
 5% correctly diagnosed preoperatively

1. prolonged, less acute presentation
2. fever, anorexia, nausea, vomiting less frequent
3. mass present
4. older than appendicitis
5. ? bleeding

Higher suspicion: prior appendectomy, similar episodes in past, dx of cecal diverticula

Differential Dx:	mesenteric adenitis	perforated duodenal ulcer
	infectious inflammatory colitis	cholecystitis
	foreign body perforation	ischemic colitis
	PID	cecal endometriosis
	pancreatitis	left sided diverticulitis
	Meckel's diverticulum	

Diagnostic tests:

1. Barium enema: 50% sensitivity, irregular eccentric filling defect, pericecal inflammation, frank perforation, diverticula, normal appendix
2. US:
3. CT: linear streaking density in pericecal fat, bowel wall thickening, intramural abscess, complimentary CT, US, BE

Laparoscopy: inflammation of cecum, not conclusive

Colonoscopy: low diagnostic yield with acute diverticular inflammation

Intraoperative dx: 50-89% of undx preop, inflamed diverticulum, cecal mass with perforation, peritonitis

Stage: Grade I: locally inflamed easily identified cecal diverticulum
 Grade II: uncomplicated cecal wall mass
 Grade III: localized abscess, fistula
 Grade IV: purulent or fecal peritonitis

Accurate intraop dx Grade I, less Grade II, Grade III & IV misdiagnosed as perforated CA

Treatment:

- Preop Dx known:
 - observation, antibiotics
 - Recurrence: 29%
 - Indications for surgery: recurrence, obstruction, perforation, abscess, fistula
- Preop appendicitis:
 - 213 cases, grade I identified 4%, Grade II 68%, Grade III 22%, Grade IV 1 %
 - Treatment options:
 - Appendectomy, postop antibiotics
 - Appendectomy, diverticulectomy
 - right hemicolectomy
 - 49 pt, Grade I-III
 - nonresection: 0% mortality, 2% morbidity
 - 10% colectomy, 3.6y follow-up
 - Failure of treatment: 10% grade I-III, 6% Grade I,II
- Diverticulectomy (wedge resection): margins free of inflammation,
 - 47 cases Grade I-IV, mortality 0-0.5%, morbidity 1.7-8%
 - 2 fistulas, 1 wound dehiscence (Grade III-IV), 1 recurrence to right hemicolectomy
- Nonresection or diverticulectomy: Grade I and some Grade II
- Grade II-IV:
 - difficult to distinguish from carcinoma
 - 58% ID diverticulitis in OR
 - 40% assume carcinoma
 - Cecotomies: increased risk of intraabdominal bacterial contamination, spread of carcinoma
 - Diagnosis not clear or perforation: right hemicolectomy
 - 117 cases Grade II-IV tx with R hemicolectomy 1950-1993
 - mortality 1.6%, morbidity 14%
 - 635 patients: 6.7% morbidity, 2.5% mortality
- Grade IV: ileostomy, mucous fistula after resection

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August 2, 2004