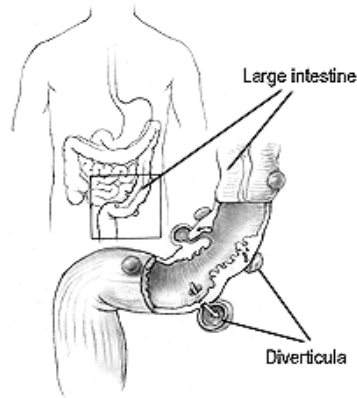
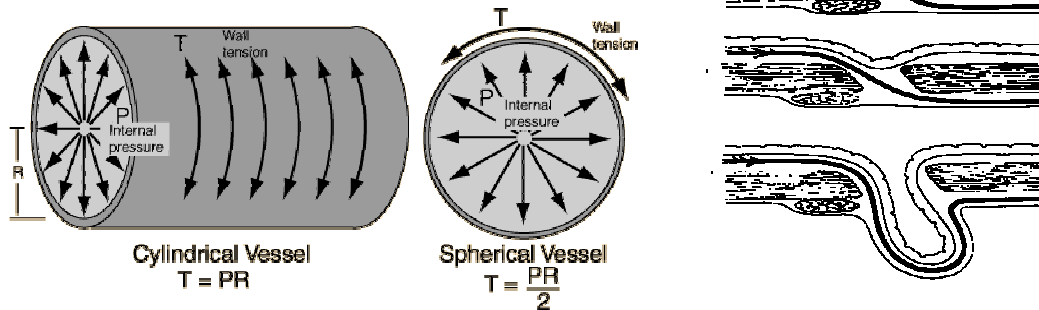


DIVERTICULITIS OF THE YOUNG AND RESTLESS



1. “Diverticular Disease” = Large intestinal pathology although diverticula exist in small bowel (Meckel’s)
 - prevalence increasing: Life expectancy, Low residue diets, Better detection, younger population

- A. Diverticulosis: Diverticula without inflammation. Nonspecific bowel Symptoms. ~IBS. Treat with high fiber diet. 1/3 US by 45 years old & 2/3 by > age 80 Lee found 6% in < 40 in postmortem study 1014 colons in Singapore. Western disease associated with low residue & pres > mucosa out pouch (vasa recta penetrate circular muscle). 50-90% left colon. Most significant cause is small diameter. Right side 75% Asian
 - Bleed: Brisk 80% resolve, 25% recur of these 50% Recur again, surgery reserved for second occurrence



- B. Diverticulitis: Presence of inflammation or infection. 10-25% with diverticulosis progress to diverticulitis (Afzal 2002). 95% LLQ (5%RLQ) Pain => Diffuse peritoneal/rebound Symptoms with perforation. fever. leukocytosis. nausea/vomiting. anorexia. diarrhea or constipation. obstruction.

1. Uncomplicated Diverticulitis: No abscess, no bleeding, localized inflammation, no perforation
2. Complicated Diverticulitis: When associated with obstruction, stricture, fistula (bladder/vagina) or abscess. Can include high fever, WBC > 15,000 Pneumoperitoneum on CXR. Fecal/pneumaturia with fistula. Abdominal distention/obstruction.

Hinchey Classification of Perforated Diverticular Disease

I. Pericolonic abscess

IIa. Distant abscess can be drained percutaneously

IIb. Complex abscess possibly associated with fistula

III. Generalized purulent peritonitis

IV. Generalized fecal peritonitis

Diverticulitis 1st Attack

- 1-5% mortality
- 15-25% require surgery
- up to 80% respond to conservative management, of which:
 - 33% will have no further symptoms
 - 20-30% will have a 2nd attack and will have surgery

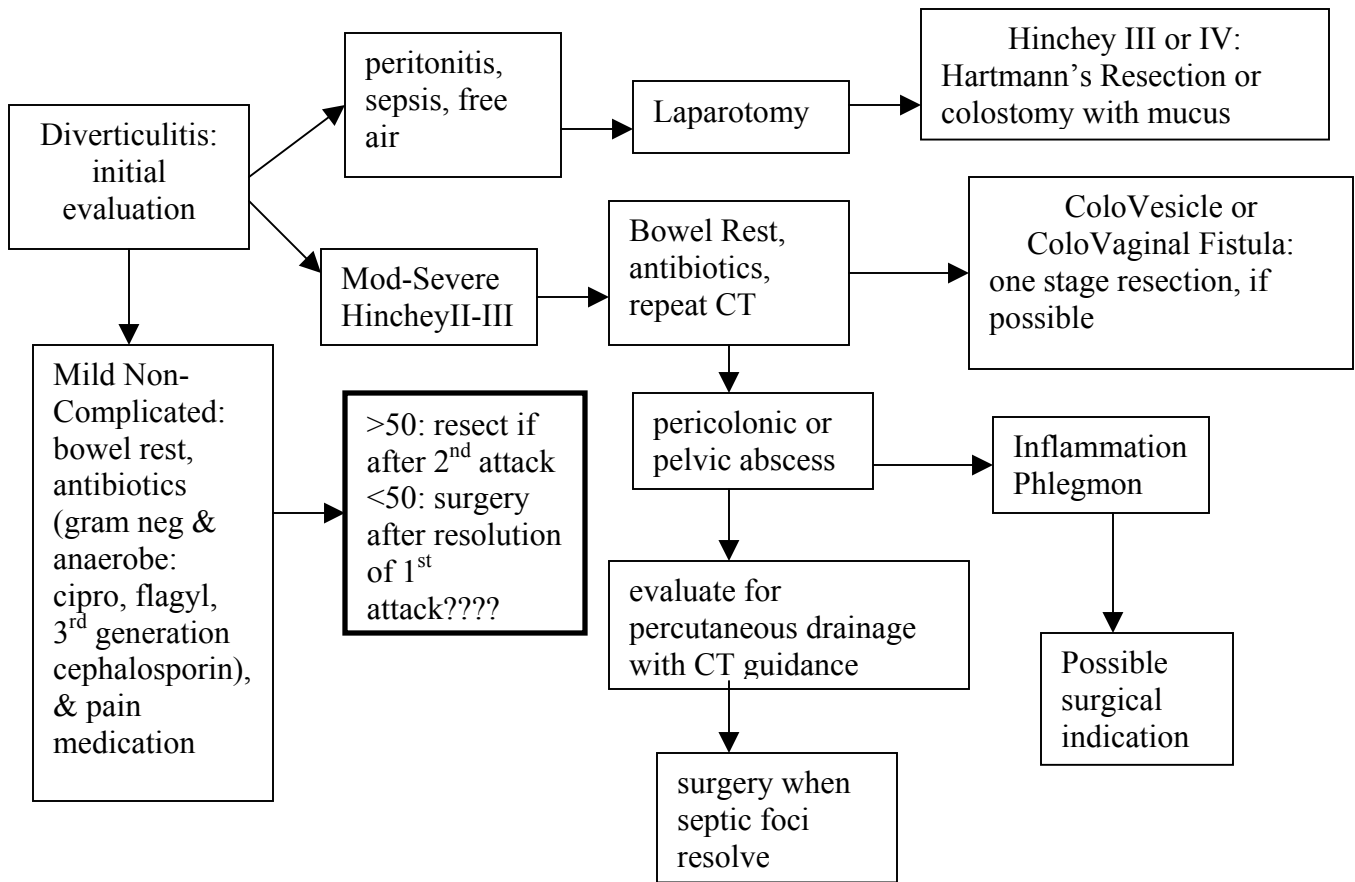
Ambrosetti- CT Criteria for diagnosing diverticulitis

Ambrosetti's computed tomography (CT) criteria for diagnosis of diverticulitis

	Mild diverticulitis	Severe diverticulitis
Findings on CT	Localized wall thickening, thickening of pericolic fat	Same as mild, plus at least one of the following: abscess, extraluminal air, extraluminal contrast

CT sensitivity 69-95%,
specificity 75-100%,
73% PPV
significance of findings:
88% pericolic inflammation
100% wall thickness >10mm
85% 7-10 mm
Still a negative CT does not equal no disease (Afzal)

Diverticulitis Central Dogma
(Adapted from Millikan & Saclarides)



Chautems et al. July 2002 Dis Colon Rectum -Geneva, Switzerland

Prospective Study of 118 pts 1986-1991 with median follow-up 9.5 yrs

- Univariate analysis: CT Ambrosetti criteria severity and age < 50 proved statistically significant factors of poor outcome (persist or recurrent diverticulitis).
- Younger patients had more severe disease per CT (48% Vs 19%)
- Multivariate analysis not statistically significant.
- Recommend that patients < 50 years old with severe disease on CT should have elective surgery after 1st acute episode

Number of Patients and Probability of Poor Outcome at 5 Years

Age (yr)/Severity of Diverticulitis on CT	n	Poor Outcome	Probability at 5 Years (%)	95% CI
≤50/Mild	14	6	36	16-63
≤50/Severe	14	9	54	19-77
>50/Mild	74	16	19	12-34
>50/Severe	16	7	44	23-70

CT = computed tomography; CI = confidence interval.

Biondo et al 2002 Br J Surg -Barcelona

- Following 327 patients from 1994 to 1999 for minimum of 24 months
- only 18% of patients initially managed medically eventually required surgery
- There were no statistical differences in severity according to the Hinchey classification
- There were no statistical differences in eventual surgery between younger and older patients.
- The risk of poor outcome after a 2nd episode was similar in the both age groups. Recommend young and old patients be managed accord to the same protocols.

Table 1 Treatment during the first hospital admission

	Group 1 (≤ 50 years)	Group 2 (> 50 years)	Total
Conservative treatment	47 (65.3)	179 (70.2)	226 (69.1)
Emergency operation	19 (26.4)	59 (23.1)	78 (23.9)
Semielective operation	6 (8.3)	17 (6.7)	23 (7.0)
Total	72 (22.0)	255 (78.0)	327

Values in parentheses are percentages. There were no significant differences in type of treatment between the two groups ($P = 0.47$, χ^2 and two-tailed Fisher's exact tests)

West et al 2003 Amer J Surg –Univ of Tex Houston

- Retrospective study 1995-2001
- medical records of 64 patients diagnosed with diverticulitis at one hospital.
- Divided into age > 50 and < 50.
- Looked at patient demographics, history, physical findings, lab values, CT results, and treatment.
- 2 tailed Fisher's exact test.
- Results:
 - Trend toward increased surgical intervention in younger population but not statistically significant
 - No difference in analysis of gender, type and timing of surgery, and complication rates with respect to age.
 - Only CT findings as per Ambrosetti criteria were associated with more virulent course.
 - Does not take a more virulent course in the young.

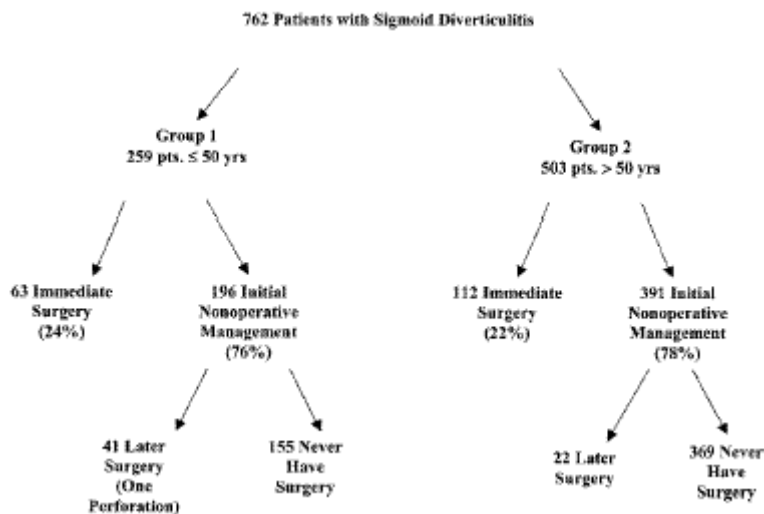
Diagnosis on admission

	Age ≤50 years	Age >50 years
Mild diverticulitis	30 (65%)	8 (44%)
Abscess	8 (17%)	2 (11%)
Perforation	5 (11%)	5 (28%)
Fistula	1 (2%)	2 (11%)
Obstruction	2 (4%)	1 (6%)
Other	1 (2%)	1 (6%)

$P > 0.05$ for all groups.

Guzzo & Hyman 2004 Dis Colon Rectum –Univ of Vermont

- Retrospective study.
- N=259 < 50 years old & 503 > 50 years old.
- All had significant diverticulitis 1990-2001.
- log rank test.
- Initial Presentation: emergency surgery had similar incidence young and old (24 Vs 22%).
- Still < 50 more likely to be treated surgically (40 vs 26).
- Of 196 patients who did not require initial surgery on presentation
 - 41 had subsequent admission and surgery
 - only 1 perforation (0.5%)
- Conclusion: Risk of subsequent diverticular perforation in medically managed patients < 50 with significant diverticulitis is very low.
- Question the need for elective surgery after 1st episode



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