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Current Management of Diverticulitis

Arnold Berlin, MD, Facs
Associate Professor of Surgery
Controversies in Surgery
December 18, 2014

Overview

- Background
- Pathophysiology
- Clinical Classification
- Presentation
- Management: Controversies
- Outcomes

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Significance of Diverticulitis

- Significant problem in Western Countries
- One of the most common causes of acute surgical admission
- 152,000 yearly hospitalizations
- 1.5 million days of inpatient care per year
- Annual costs of diverticular disease estimated at $2.7 billion per year

Sandler RS et al. The burden of selected digestive diseases in the United States. Gastroenterology. 2002;122:1500-1511.

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Diverticula

- Small (0.5 - 1.0 cm) pouches protruding from bowel wall
- Most pseudodiverticula:
  - mucosa and submucosa only- muscle layer not present
- True diverticula: all layers of the bowel wall involved
- Up to 60% of people living in industrialized countries will develop colonic diverticula

Floch MH, White JA. Management of diverticular disease is changing. World J Gastroenterol. 2006; 12:3225-3228.

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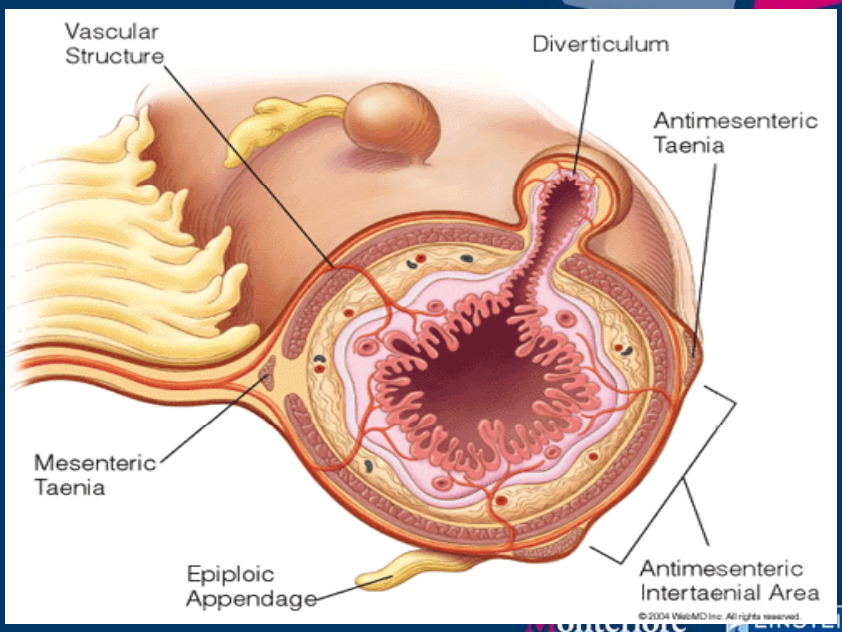

Pathophysiology Diverticular Disease

- Increased intraluminal pressure
- Modern disease of industrialized society
- Sigmoid colon most commonly involved (95%)
  - Smallest diameter
  - Laplace's law: P=T
  - Generates highest pressure
- Incidence of diverticulosis increases with age:
- 30% at age 60
- 60-80% at age 80

Role of Fiber

- That portion of dietary intake which is not absorbed - cellulose
- Decreases whole-gut transit time
- Increases stool weight
- Lower colonic intraluminal pressure

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History of Fiber

- Late 1800's
- Grist Mill replaced by Roller Mill
- Leading to highly refined/crushed flour
- Move to cities and Refrigeration and Canning
- Increased consumption of refined sugar and protein
- Diverticulosis became epidemic

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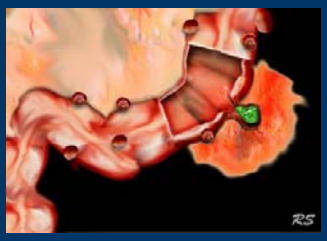
Diverticulitis

- Diverticulum inflamed due to obstruction
- Microperforation and inflammation of surrounding tissue results in phlegmon
- Incidence 10% to 25% in patients with diverticula
  - 75% Uncomplicated
  - 25% complicated
- Risk of diverticulitis increases as pts. w/ diverticulosis age
  - 10% after 5 years
  - 35% after 20 years



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Clinical Classification Acute Diverticulitis

- Uncomplicated vs. Complicated
- Uncomplicated
  - Pericolic soft-tissue stranding, colonic wall thickening, phlegmon
- Complicated: Acute diverticulitis +
  - Abscess
  - Perforation

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Complicated Diverticulitis: Hinchey Classification

Hinchey Stage	
I	Pericolic or Mesenteric abscess
II	Retroperitoneal or Pelvic abscess
III	Purulent peritonitis
IV	Fecal peritonitis

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Presentation

- Symptoms
  - LLQ Pain, Fever, Diarrhea or constipation
  - Urinary symptoms if inflammation adjacent to the bladder
- Uncomplicated Diverticulitis:
  - Fever, Leukocytosis, LLQ tenderness
  - Mass may be palpated
- Complicated Diverticulitis:
  - Tender mass palpable on abdominal, pelvic, rectal exam
  - Diffuse tenderness and peritonitis

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Evaluation- CT Scan

- Most appropriate imaging modality
- Sensitivity and Specificity as high as 98% and 99%
- Confirms diagnosis and stages process
- Pitfalls
  - Cancers masquerading as diverticulitis
  - Immunocompromised patients- less inflammation

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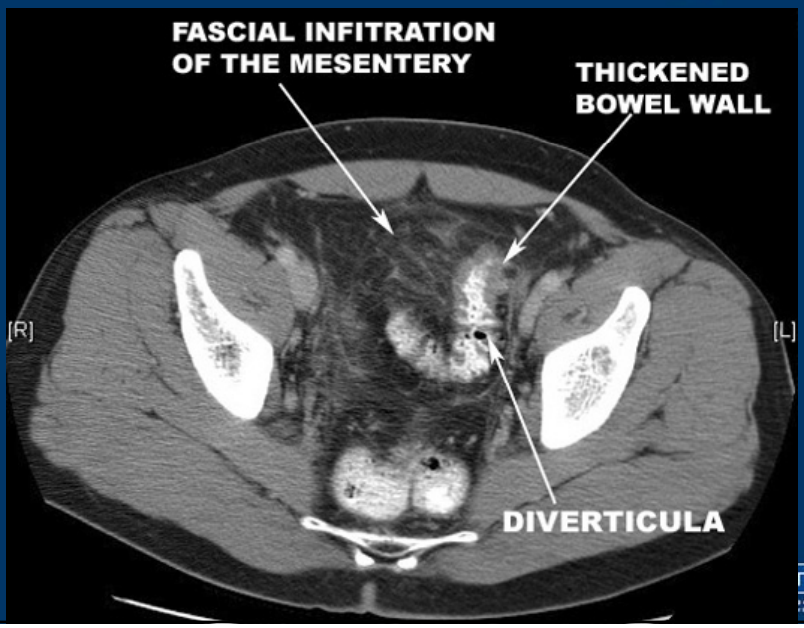
- Imaging: CT Scan



Management: Acute Uncomplicated Diverticulitis

- Conservative Management
  - Nonoperative: Bowel rest, Antibiotics
    - PO or IV depending on severity
    - Anaerobic/GN coverage
- Successful in 70-100% pts

Rafferty J, et al. Standards Committee of American Society of Colon and Rectal Surgeons. Practice Parameters for Sigmoid Diverticulitis. Dis Colon Rectum. 2006 Jul;49(7):939-44.

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Outpatient vs Inpatient

- DIVER Trial: Multicenter RCT, (Biondo et al *Ann Surg, Jan 2014)*
- 132 Patients, 5 Hospitals in Spain
- Outpatient vs. Hospital Treatment of Uncomplicated Diverticulitis (CT Confirmed) + Abx
- Same rate of treatment failure
- Overall health care cost per episode was 3 times lower in outpatient group
- Concluded: Outpatient treatment safe and effective selected patients with uncomplicated acute diverticulitis

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Are Antibiotics Necessary?

- AVOD Trial: Multicenter RCT, (Chabok et al Brit J Surg 2012)
- 10 surgical departments in Sweden & 1 Iceland
- Cochrane Review- (Shabanzedeh et al 2012)
- Both Concluded- No difference in outcomes for treatment of uncomplicated diverticulitis with or without abx
  -

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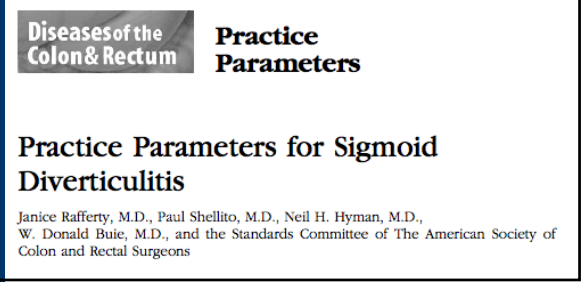
Colonoscopy Following Recovery

- Avoid with acute diverticulitis
  - Risk of perforation-???
- Perform 6 to 8 weeks after when inflammation subsides
- Diagnose IBD, ischemia, exclude neoplasia
- Current Accepted society and international guidelines recommend routine colonoscopic evaluation after 1 episode of acute diverticulitis

THE AMERICAN SOCIETY OF COLON AND RECTAL SURGEONS ASCRS 1899


Diseases of the Colon & Rectum

Practice Parameters

Practice Parameters for Sigmoid Diverticulitis

Janice Rafferty, M.D., Paul Shellito, M.D., Neil H. Hyman, M.D., W. Donald Buie, M.D., and the Standards Committee of The American Society of Colon and Rectal Surgeons

Is Colonoscopy Mandatory After Radiologically Confirmed Acute Diverticulitis?

- N=319 had colonoscopy after episode
- 23 (2.1%) had cancer
- Odds of Dx CRC
  - 6.7 time in pts w abscess
  - 4 times in local perforation
  - 18 times in pts with fistula

ORIGINAL CONTRIBUTION

Is Colonoscopy Still Mandatory After a CT Diagnosis of Left-Sided Diverticulitis: Can Colorectal Cancer be Confidently Excluded?

K. C. Lau, M.B.B.S., F.R.A.C.S.[1] • K. Spilsbury, Ph.D.[2] • Y. Farooque, M.B.B.S.[1]
S. B. Kariyawasam, M.B.B.S., F.R.A.C.S.[1] • R. G. Owen, M.B.B.S.[1]
M. H. Wallace, M.S., F.R.C.S.[1,3] • G. B. Makin, M.B.B.S., F.R.A.C.S.[1]

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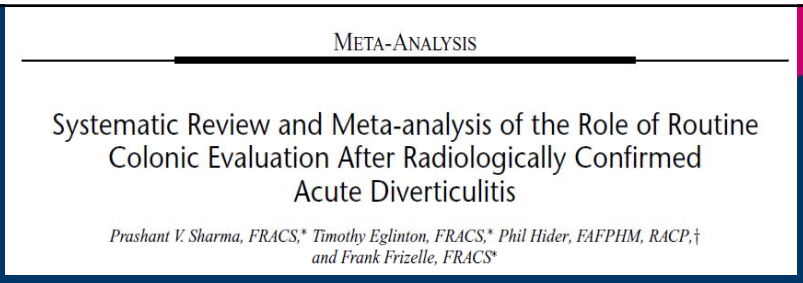

META-ANALYSIS

Systematic Review and Meta-analysis of the Role of Routine Colonic Evaluation After Radiologically Confirmed Acute Diverticulitis

Prashant V. Sharma, FRACS, Timothy Eglinton, FRACS,* Phil Hider, FAFPHM, RACP,† and Frank Frizelle, FRACS**

- Proportion Estimated Risk of Malignancy:
  - Uncomplicated 0.7% vs. Complicated 10.8%
- Conclusion: Risk of malignancy after radiographically proven episode of acute uncomplicated diverticulitis low
- Routine colonoscopy may not be necessary in uncomplicated cases
- Pts with complicated diverticulitis have significant risk & should have colonoscopy

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Complicated Diverticulitis: Abscess

- Hinchey Stages I (pericolic abscess) and II (retroperitoneal or pelvic abscess)
- Approx 15% of patients with acute diverticulitis
- Admission + IV Antibiotics
- Abscesses <2 cm should resolve
- Larger abscess amenable percuataneous drainage
- Elective Resection?

Rafferty J, et al. Standards Committee of American Society of Colon and Rectal Surgeons. Practice Parameters for Sigmoid Diverticulitis. Dis Colon Rectum. 2006 Jul;49(7):939-44

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What is the role of Surgery following recovery from an episode of Complicated or Uncomplicated Diverticulitis

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Natural History

- Following recovery of uncomplicated attack recurrence is about 25%
- Following recovery from second episode recurrence is higher
- Evidence is lacking that recurrent episodes will be more serious or more complicated

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Natural History of Disease

- Most perforations and complications happen at first attack not after recurrences
- Conservative management of recurrent nonperforated diverticulitis is associated with low rates of Morbidity & Mortality
- Therefore, elective procedures may not decrease morbidity

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Predicting Recurrence After Initial Attack

ORIGINAL CONTRIBUTION

Long-Term Follow-up After an Initial Episode of Diverticulitis: What Are the Predictors of Recurrence?

Jason F. Hall, M.D., M.P.H.[1] • Patricia L. Roberts, M.D.[1]
Rocco Ricciardi, M.D., M.P.H.[1] • Thomas Read, M.D.[1] • Christopher Scheirey, M.D.[2]
Christoph Wald, M.D.[2] • Peter W. Marcello, M.D.[1] • David J. Schoetz, M.D.[1]

1 Department of Colon and Rectal Surgery, Lahey Clinic, Burlington, Massachusetts
2 Department of Radiology, Lahey Clinic, Burlington, Massachusetts

- 5-year Recurrence 36%
- Complicated Recurrence 3.9%
- Concluded: although recurrence is common following an initial attack managed medically, complicated recurrence is uncommon

TABLE 3. Multivariate model

	HR (95% CI)
Retroperitoneal abscess	4.5 (1.1–18.4)
Family history of diverticulitis	2.2 (1.4–3.2)
Segment >5 cm	1.7 (1.3–2.3)
Right colonic disease	0.27 (0.09–0.86)

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ASCRS-Recomendation

- "The decision to recommend elective sigmoid colectomy after recovery from acute diverticulitis should be made on a case-by-case basis"
  - Level of Evidence III; Grade B
  - Consider Age, comorbidities, frequency & severity of attacks, and if sx persistent after acute episode
  - Consider travel outside US, immunosuppresion

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ORIGINAL ARTICLES

Indications for Elective Sigmoid Resection in Diverticular Disease

Bastiaan R. Klarenbeek, MD, Michelle Samuels, MD,* Maarten A. van der Wal, MD,† Donald L. van der Peet, MD, PhD,* Wilhelmus J. Meijerink, MD, PhD,* and Miguel A. Cuesta, MD, PhD**

TABLE 4. Univariate Analysis of Risk-Factors for Perforation (Recurrences in 88 Patients)

	Risk Factor	No Risk Factor	*P*
Age <40	2/6 (33%)	8/82 (10%)	0.079
Age >70*	0/29 (0%)	10/59 (17%)	0.019
ASA >2	5/23 (22%)	5/65 (8%)	0.068
Collagen vascular disease*	4/11 (36%)	6/77 (8%)	0.005
BMI >25	6/56 (11%)	2/25 (8%)	0.705
Cardiovascular	6/36 (17%)	4/52 (8%)	0.192
Diabetic	0/8 (0%)	10/80 (13%)	0.288
Immune suppressive therapy	1/6 (17%)	9/82 (11%)	0.672
NYHA >2	2/12 (17%)	8/76 (11%)	0.533
Pulmonary	1/13 (8%)	9/75 (12%)	0.651
Chronic renal failure*	3/3 (100%)	7/85 (8%)	0.000
Smoking	2/25 (8%)	8/63 (13%)	0.531
High-risk*	5/14 (36%)	5/74 (7%)	0.002

High-risk is considered the high-risk group consisting of collagen vascular disease, immunosuppression therapy, and/or chronic renal failure per patient.
*Significant risk factors.
ASA indicates American Society of Anaesthesiology; BMI, Body Mass Index; NYHA, New York Heart Association.

TABLE 5. Multivariate Analysis by a Logistic Regression Model of Risk-Factors for Perforation (Total 291 Patients)

	Odds-Ratio	*P*	95% CI Lower	95% CI Upper
Start of analysis				
Age <40	0.680	0.679	0.109	4.246
Age >70	1.055	0.886	0.508	2.188
ASA >2	1.000	0.999	0.344	2.911
Collagen vascular disease	0.972	0.961	0.317	2.982
BMI >25	1.727	0.145	0.828	3.602
Cardiovascular	0.632	0.258	0.285	1.399
Diabetic	0.178	0.025	0.040	0.801
Immune suppressive therapy	3.034	0.094	0.829	11.099
NYHA >2	1.289	0.657	0.420	3.956
Pulmonary	0.669	0.448	0.238	1.886
Chronic renal failure	20.419	0.000	4.923	84.692
Smoking	1.163	0.716	0.516	2.624
Constant	0.189	0.000		
End of analysis				
Immune suppressive therapy*	2.934	0.026	1.136	7.576
Chronic renal failure*	16.161	0.000	4.490	58.164
Constant	0.237	0.000		

*Significant risk factors.
ASA indicates American Society of Anaesthesiology; BMI, Body Mass Index; NYHA, New York Heart Association.

- Concluded elective sigmoid rsxn should be restricted and only considered in complicated cases and for high risk patients (IS/CRF/CVD) following a conservatively treated episode

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Management of Acute Diverticulitis with Abscess After Drainage

- Elective resection should typically be considered after episode of complicated diverticulitis (ASCRS)
  - Association of Coloproctology of Great Britain and Ireland statement does not specifically address
- After percutaneous drainage of abscess elective resection has been recommended as 41% will develop recurrence
- This has been challenged- however studies have been small, retrospective, single-institution data sets with limited follow-up and lack of time-to-event analysis, and selection bias

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Diverticulitis in Young Patients

- < Age 50
- No clear consensus
- More virulent course of disease untrue
- Not at increased risk of complications or recurrent attacks
- Longer lifespan – higher cumulative risk for recurrent attacks
- Resection is no longer indicated at the time of the first attack in young pts.

Nelson et al. Management of Diverticulitis in Younger Patients. Dis Colon Rectum 2006; 49:1341-45.
Guzzo J, Hyman N. Diverticulitis in young patients: is resection after a single attack always warranted? Dis Colon Rectum 2004;47:1187-91.

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Elective Sigmoid Resection

- Open, Lap, Robotic
- Sigmoid Resection
  - Proximal Margin: compliant bowel
    - Include thickened, woody or grossly diseased bowel
    - Not all diverticula bearing colon must be removed
  - Distal: upper rectum
- Ureteral stenting available

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Laparoscopic Resections

- Sigma Trial: Multicenter double blind RCT 2002-2006
- Lap vs. Open Elective Resection
- Lap and Lap-assisted elective colon resections can be preformed safely with low conversion and complication rates
- Faster Recovery, Decreased LOS
- Less postoperative pain, more cosmetic
- Factors to Consider: body habitus, local tissue inflammation, complicated diverticulitis
- More complicated disease may require conversion

RANDOMIZED CONTROLLED TRIALS

Laparoscopic Sigmoid Resection for Diverticulitis Decreases Major Morbidity Rates: A Randomized Control Trial

Short-term Results of the Sigma Trial

Bastiaan R. Klarenbeek, MD, Alexander A. Veenhof, MD,* Roberto Bergamaschi, MD, PhD, FRCS,† Donald L. van der Peet, MD, PhD,* Wim T. van den Broek, MD, PhD,* Elly S. de Lange, PhD,* Willem A. Bemelman, MD, PhD,‡ Piet Heres, MD,§ Antonio M. Lacy, MD, PhD,¶ Alexander F. Engel, MD, PhD,‖ and Miguel A. Cuesta, MD, PhD**

Lap vs. Open

- 2002-2006 prospective, multicenter, double-blind, parallel-arm, RCT in 5 centers
- Significantly more major complications in Open group 9.6% vs. 25.0% (P = 0.038)
- Lap resection 15.4% reduction in major complication rates
- Less pain, improved quality of life, and shorter LOS at the cost of a longer operating time
- Minor complication rates were similar

Teeuwen PH, chouten MG, Bremers AJ, Bleichrodt RP Laparpscopic sigmoid resection for diverticulitis decreases major morbidity rates. Ann Surg. 2009 Sep;250(3):500-1

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Complicated Diverticulitis: Free perforation

- 1% to 2% of cases
- Mortality between 20% - 30%
- Hinchey Stage III - Purulent peritonitis
- Hinchey Stage IV - free perforation with fecal peritonitis
- Emergent Operative Intervention
  - Management Options

Emergent Surgical Intervention

- Controversial Management of Hinchey III & IV disease
- According to current ASCRS guidelines, HP recommended
  - Sigmoid resection, end colostomy, closure of distal stump
  - Overall Morbidity up to 29%
  - Mortality 10-20%
  - Long LOS (20+ days)
  - Colostomy closure technically difficult
  - "Temporary" colostomies often never closed (30%-75%)
- This has been challenged by European Association for Endoscopic Surgery recommendations + several studies
- Alternative to HP include: PA +/-Diversion & Lap Lavage

Rafferty J, et al. Standards Committee of American Society of Colon and Rectal Surgeons. Practice Parameters for Sigmoid Diverticulitis. Dis Colon Rectum. 2006 Jul;49(7):939-44

Emergent Surgical Intervention

ORIGINAL ARTICLES FROM THE ESA PROCEEDINGS

A Multicenter Randomized Clinical Trial of Primary Anastomosis or Hartmann's Procedure for Perforated Left Colonic Diverticulitis With Purulent or Fecal Peritonitis

Christian Eugen Oberkofler, MD, Andreas Rickenbacher, MD,* Dimitri Aristotle Raptis, MD, MSc,* Kuno Lehmann, MD,* Peter Villiger, MD,† Christian Buchli, MD,† Felix Grieder, MD,‡ Hans Gelpke, MD,‡ Marco Decurtins, MD,‡ Adrien A. Tempia-Caliera, MD,§ Nicolas Demartines, MD,§ Dieter Hahnloser, MD,§ Pierre-Alain Clavien, MD, PhD,* and Stefan Breitenstein, MD**

- RCT: HP vs. PA +DLI
  - N=62 Hinchey III/IV
- Complication Rate (M&M) for resection and Stoma reversal comparable in each group
- Primary Anastomosis Favored:
  - Stoma reversal rate significantly higher (90% vs. 57%)
  - Significantly reduced major complications, OR time, LOS, and cost

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Emergent Surgical Intervention

- Salem and Flum et al. Meta-analysis
  - PA (569 cases 50 studies) v. HP
  - M&M greater in HP group
  - Concluded PA safe
- Therefore PA +DLI in Left sided perforation
  - Higher Stoma reversal rate
  - Shown to be safe, with less complications, shorter LOS, and less cost
- Future Question: Is diverting ileostomy is necessary?

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Laparoscopic Lavage

- Lap lavage for perforated diverticulitis is newer modality of treatment
- First described by O'Sullivan et al. *Ireland, 1996*
  - 2009 published 100 consecutive cases with 93% success
  - 2012 published 427 cases 14% morbidity
- Nonfeculent Perforated Diverticulitis (Hinchey 3)
- HP: high M&M, reanastomosis often not performed, Long LOS
- Not actually new concept, now more realistic option
  - Increase in adoption of laparoscopy & advances in technical skill + Improvement in CT imaging
  - Treatment option now within skills set of most general surgeons

O'sullivan et al. Laparoscopic Management of generalized peritonitis due to perforated colonic diverticula. Am J surg 1996;171:432-434.

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Laparoscopic Lavage

- In institutions who use commonly: report refinements in technique and improvement in case selection have resulted in increased use
- Generally Antibiotics +
  - Hinchey I-II Percutaneous Drainage
  - Hinchey III Lap Lavage
  - Hinchey IV Hartmann's
- Failures:
  - Fistula formation
  - Perforated cancer
  - Ongoing sepsis/inadequate washout/missed collection

White et al. A Ten-Year Audit of Perforated Sigmoid Diverticulitis: Highlighting the Outcomes of Laparoscopic Lavage. Dis Colon Rectum 2010; 53:1537-1541.

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Laparoscopic Lavage

- Systematic Review Publications 1990 - 2008
- 8 studies met inclusion criteria
- 213 patients with acute complicated diverticulitis managed by laparoscopic lavage & Abx
- Hinchey Grade 3 disease
- Conversion to laparotomy in 6 (3%) patients
- Mean LOS 9 days
- 10% had complications
- Mean f/u 38 mos, 38% underwent elective sigmoid resection with primary anastomosis
- Alternative to more radical surgery in selected patients

Alamili et al., Acute Complicated Diverticulitis Managed by Laparoscopic Lavage. Dis Colon Rectum. 2009; 52: 1345-1349.

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ORIGINAL CONTRIBUTION

Laparoscopic Lavage for Perforated Diverticulitis: A Population Analysis

Ailín C. Rogers, M.B., B.Ch., B.A.O.[1,2] • Danielle Collins, M.D.[1]
Gerald C. O'Sullivan, F.R.C.S.I.[1,2] • Desmond C. Winter, M.D., F.R.C.S.I.[1,2]

1 Institute for Clinical Outcomes Research & Education (iCORE) and Centre for Colorectal Disease, St. Vincent's University Hospital, Elm Park, Dublin, Ireland
2 School of Medicine & Medical Science, University College Dublin, Dublin, Ireland

- Overall intervention rate same
- Proportion of pts undergoing lap lavage increased 8% to 17%
  - Lap Lavage more likely in pts at extremes of age
- Lap Lavage:
- Lower mortality
- Less complications 14.1% vs. 25% (P<0.001)
- Shorter LOS
- ICU admission rates significantly lower

TABLE 2. Demographics and outcomes of patients with acute diverticulitis undergoing emergency procedures 1995 to 2008

	Resection (n = 427) n (%)	*Lavage (n = 2028) n (%)*	p
Demographics			
Male	899(44.3)	199(46.6)	0.501
Mean age, y	64.8	60.7	0.000
Charlson score	0.9	0.8	0.041
Outcomes			
Median length of stay, d	20	10	0.000
Intensive care admissions	235(11.6)	13(3.0)	0.000
Mortality	210(10.4)	17(4.0)	0.010

•Concluded: Promising Therapeutic Option

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Laparoscopic Lavage

- Issues that have precluded this from being standard of care to replace HP
  1. Patient selection (Hinchey 3)
  2. Accuracy of Preop Determination
  3. Lack Prospective RCT

Critiques:

- Selection Bias
- Inclusion Criteria Variable
- Lack of Prospective Data
- No Randomized Studies

Horgan, A. Laparoscopic Lavage for perforated diverticulitis: A Panacea? Another view. Dis Colon Rectum. 2013; 56:388.

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Laparoscopic Lavage

- RCT in Progress
  - DILA-LA *Scandinavia, Thornell et al.*
  - The Ladies Trial *Dutch Diverticular Disease (3D) Collaborative*
  - LapLAND *Hogan et al.*
  - SCANDIV *Scandinavia, Schultz et al.*
- Questions for future:
  - If we manage pts. successfully, what percent remain symptomatic?
  - Compare to HP and PA +/- DLI
  - Should elective resection be performed?

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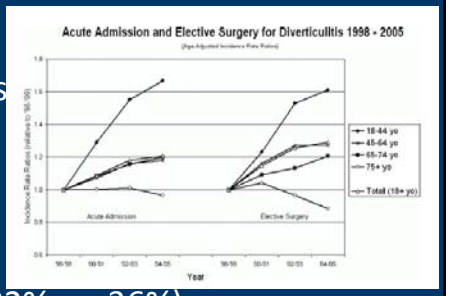
ORIGINAL ARTICLES

Diverticulitis in the United States: 1998–2005

Changing Patterns of Disease and Treatment

David A. Etzioni, MD, MSHS,†‡ Thomas M. Mack, MD, MPH,† Robert W. Beart, Jr., MD,* and Andreas M. Kaiser, MD**

- Nationwide inpatient sample
- N=267,000 acute diverticulitis
- 33,500 operations
- Admissions increased by 26%
- Rates of admission increased more rapidly for young pts (82% vs. 36%)
- Elective operations rose 29%
- No evid that PA becoming more widely used
- Mortality decreased



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Outcomes

- 1991 -2005

ORIGINAL CONTRIBUTION

Is the Decline in the Surgical Treatment for Diverticulitis Associated with an Increase in Complicated Diverticulitis?

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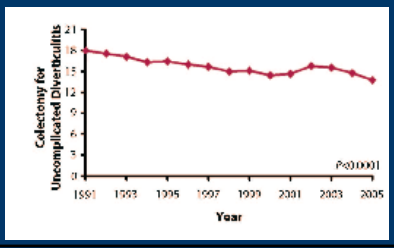
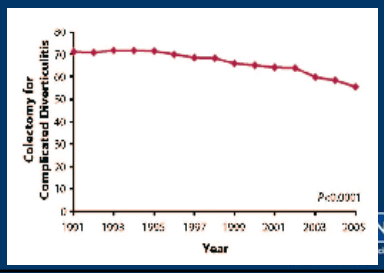
- Despite a significant decline in surgical treatment for diverticulitis, there has been no change in the proportion of patients discharged for free diverticular perforation
- Rationale for offering prophylactic surgery to prevent future free perforation is unsubstantiated





Recurrence After Resection

- Recurrent diverticulitis is rare after a colectomy for diverticulitis (3% to 13%)
- As many as 3% will require repeat resection
- Thaler et al. found level of anastomosis was the only predictor of recurrence
- Important predictor is colosigmoid rather than colorectal anastomosis
  - Recurrence 4 times greater
- To avoid recurrences, the rectum should be used for anastomosis
  - Where taeina coli splay out onto upper rectum

•Thaler et al., Determinants of recurrence after sigmoid resection for uncomplicated
•diverticulitis. Dis Colon Rectum. 2003 Mar;46(3):385-8.

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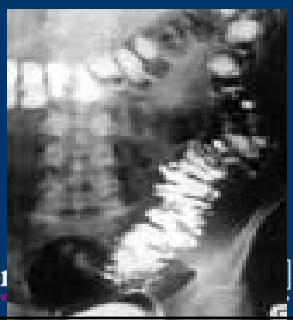
Complicated Diverticulitis: Obstruction

- Can be partial or complete
- Colonic obstruction from edema and/or inflammation.
- Recurrent attacks can cause inflammation and fibrosis resulting in stricture
- Must evaluate for cancer



Complicated Diverticulitis: Fistula

- Abscess rupture
- Incidence 5-33% reported
- Types:
  - Colovesical fistula:
    - Most common fistula from diverticulitis
    - Diverticulitis most common cause of CVF
    - Less common in females due to uterus protection
  - Colovaginal fistula: Females after hysterectomy
  - Colocuteneous fistula
  - Less Common: Coloenteric, colouterine, Colosalpingeal

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Complicated Diverticulitis: Fistula

- Diagnosis is Clinical
- Many wont be identified on imaging
- Excess efforts should not be taken to demonstrate fistula
- Primary aim is determine etiology (Ca, IBD, Diverticulitis) and manage appropriately
- Treatment:
  - Treat acute attack
  - Elective resection, primary anastomosis

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Take Home Message

- Patients are often sent to a surgeon's office to consider an elective colectomy to avoid urgent surgery and the possibility of a stoma
- As few patients will actually require urgent surgery, should limit discussion regarding this uncommon complication
- Instead should focus on discussion of risks and benefits of surgery, QOL implications, and the higher likelihood of similar episodes as the reason to, or not to, consider surgery

Ricciardi R et al. Is the Decline in Surgical Treatment for Diverticulitis Associated with an Increase in Complicated Diverticulitis? Dis Colon Rectum. 52(9):1558-1563. Sept 2009.

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Conclusions

- Colonoscopy in at least complicated if not all cases after an acute attack
- Uncomplicated Diverticulitis: Admission and Antibiotics may not be necessary
- Bowel Prep unnecessary
- Elective sigmoid colectomy after recovery from acute diverticulitis should be made on a case-by-case basis
- Guidelines should be revised
- Recommendations continually evolving as we learn more about the Natural course of the disease

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Conclusions

- Emergent Resection: Primary Anastomosis Anastomosis + Diverting Loop Ilesotomy better outcomes than Hartmann Procedure
- Laparoscopic Lavage is a promising new technique
- Prospective RCT data needed
- To avoid recurrences, ensure use the rectum for

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Thank You

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