

Management of Diverticulitis

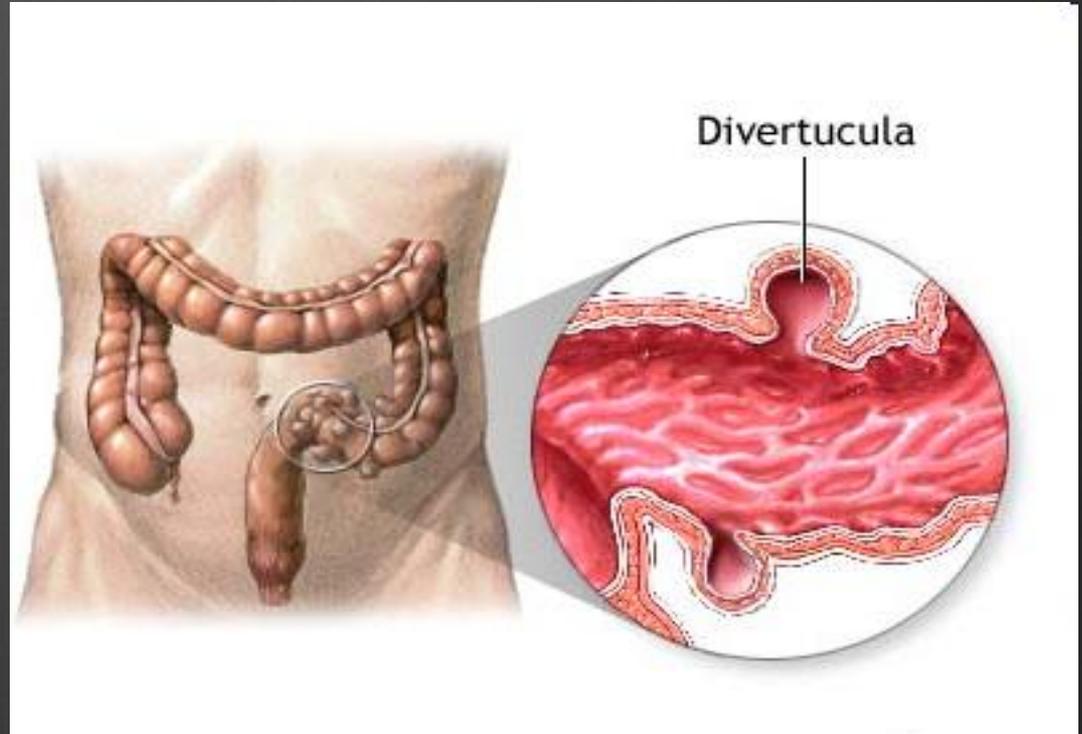
Sanjay Adusumilli
MBBS MS FRACS

0411 051 281

- Trained by CSSANZ in Oxford (UK) and Perth
- Appointments at BMDH, HSS, Norwest Private and SAN Hospital
- Surgery performed:
 - Laparoscopic and open colorectal surgery
 - Laparoscopic general surgery (including gall bladders and hernias)
 - Perianal conditions
 - Endoscopy
- Patients seen within seven days
- Strictly “no gap”
- Happy to bulk bill (please note on referral)

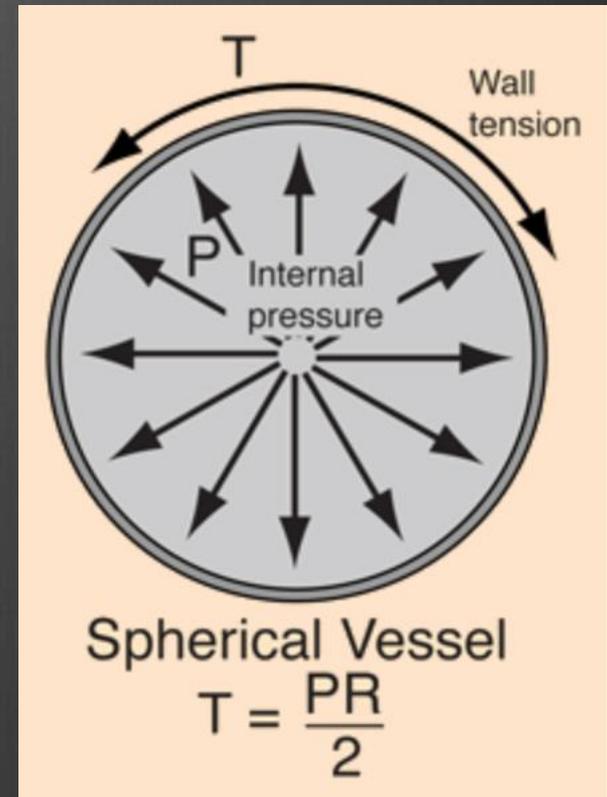
Diverticular disease

- ⊗ Diverticula form at weak points in the bowel wall
- ⊗ Often where vasa recta vessels penetrate the muscle layer
- ⊗ Most common in left colon (70-90%)



Why does it occur?

- ⊗ Congenital
- ⊗ Acquired
 - ⊗ Association with Western diets high in refined carbohydrates and low in dietary fibre
 - ⊗ Deficiency of vegetable fibre in diet
 - ⊗ Disordered motility
 - ⊗ Hyperelastosis may lead to structure change
 - ⊗ Collagen abnormalities
 - ⊗ Age



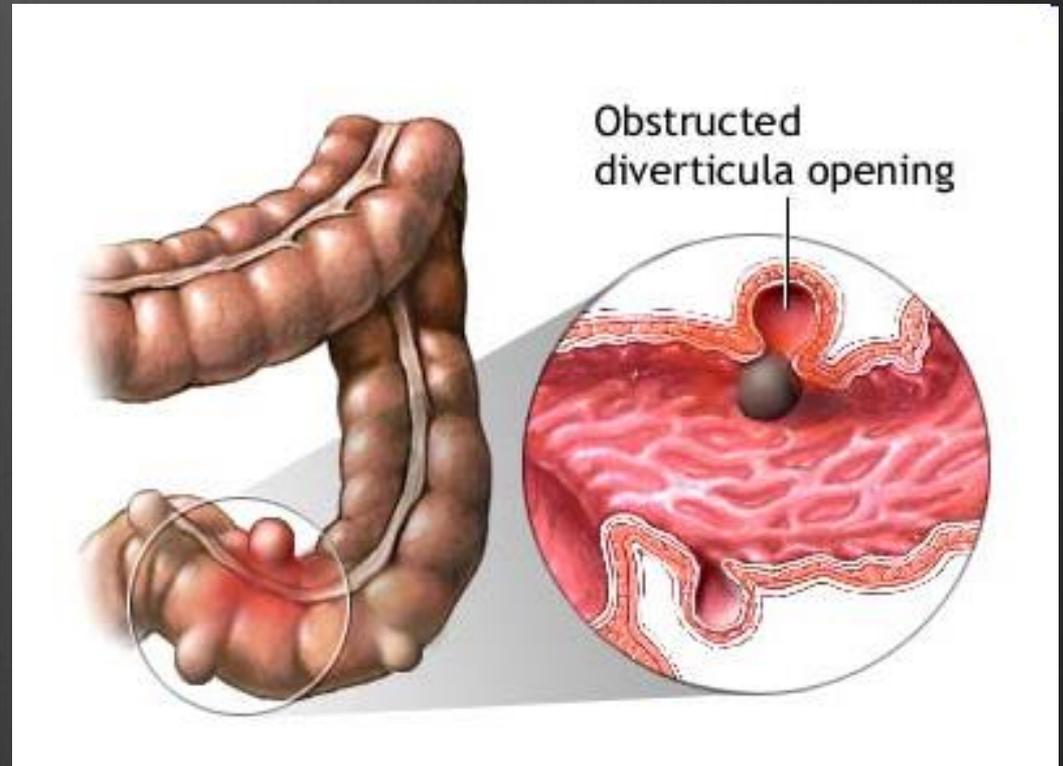
Prevalence

- ⊗ < 10% in people under 40 year old
- ⊗ 50% to 66% over age 80
- ⊗ 10-25% develop symptoms from it

Symptom	Frequency (%)
Abdominal tenderness in the left lower quadrant	93-100
Elevated white blood cell count	69-83
Fever	57-100
Nausea	10-30
Vomiting	15-25
Constipation	10-30
Diarrhea	5-15
Dysuria	5-20
Change in urinary habits	6-25

Pathophysiology

- ⦿ Faecolith
- ⦿ Bacterial flora
- ⦿ Micro or macro perforation
- ⦿ 75 to 90 percent have uncomplicated diverticulitis



Various presentations

⊗ Emergency:

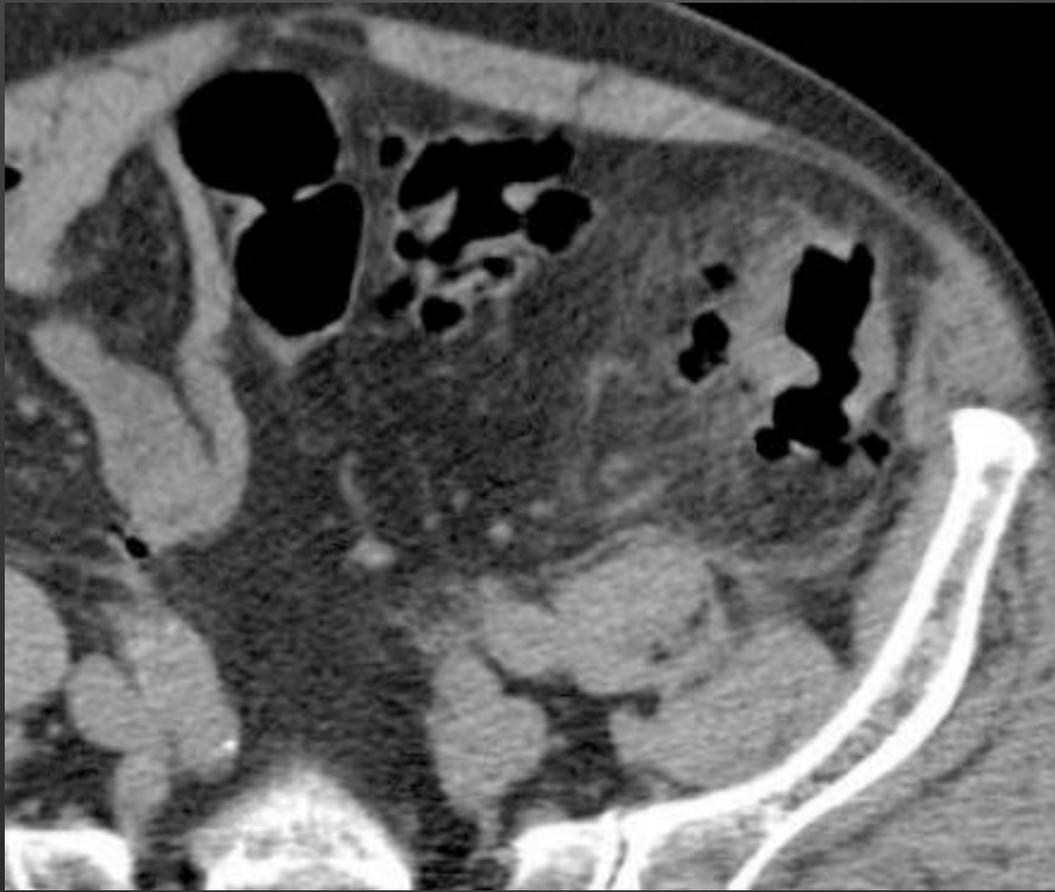
- ⊗ Diverticulitis – uncomplicated
- ⊗ Diverticulitis - complicated
- ⊗ Obstruction
- ⊗ Diverticular bleed

⊗ Chronic:

- ⊗ Recurrent diverticulitis attacks
- ⊗ Fistula (colovaginal/colovesical)

Hinchey classification

Hinchey classification		Modified Hinchey classification	
Stadium	Findings	Stadium	Findings
I	Pericolic phlegmon or abscess	0	Mild non-complicated diverticulitis
		Ia	Localized pericolic inflammation or phlegmon
		Ib	Localized pericolic abscess
II	Pelvic, abdominal or retroperitoneal abscess	II	Pelvic, abdominal or retroperitoneal abscess
III	Purulent peritonitis	III	Purulent peritonitis
IV	Faecal peritonitis	IV	Faecal peritonitis



1. Uncomplicated Diverticulitis
(Hinchey 0 or Ia)

Antibiotic treatment

- ⊗ Severe or complicated diverticulitis is managed with bowel rest, IV fluids and IV antibiotics.
- ⊗ For empirical therapy, use:
 - gentamicin IV
 - PLUS
 - amoxy/ampicillin 2 g IV, 6-hourly
 - PLUS
 - metronidazole 500 mg IV, 12-hourly.
- ⊗ If IV antibiotics are required beyond 72 hours or if gentamicin is contraindicated:
 - piperacillin+tazobactam 4+0.5 g IV, 8-hourly
 - OR
 - ticarcillin+clavulanate 3+0.1 g IV, 6-hourly.

Are antibiotics really needed?

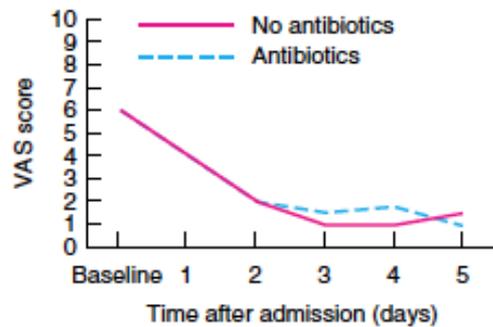
Randomized clinical trial of antibiotics in acute uncomplicated diverticulitis

A. Chabok¹, L. Pählman², F. Hjern³, S. Haapaniemi⁴ and K. Smedh¹, for the AVOD Study Group

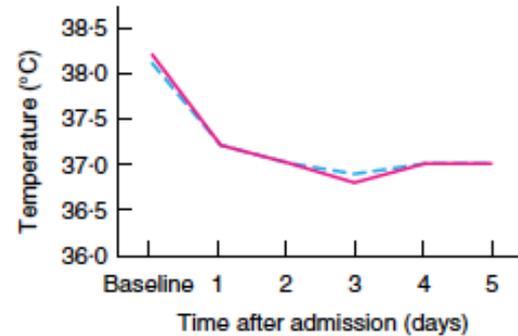
¹Colorectal Unit, Department of Surgery, and Centre for Clinical Research Uppsala University, Västmanlands Hospital, Västerås, ²Colorectal Unit, Department of Surgical Sciences, Uppsala University, Uppsala, ³Division of Surgery, Department of Clinical Sciences, Danderyd Hospital, Karolinska Institute, Stockholm, and ⁴Department of Surgery, Vrinnevi Hospital, Norrköping, Sweden

Correspondence to: Dr K. Smedh, Department of Surgery, Central Hospital, SE-72189 Västerås, Sweden (e-mail: kenneth.smedh@ltv.se)

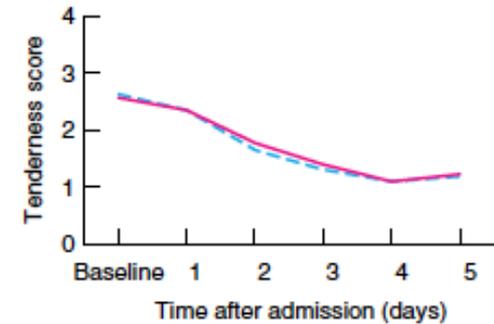
- Multicentre trial in Sweden involving ten hospitals
- 623 patients randomised into treatment with and without antibiotics



a Abdominal pain



b Temperature



c Abdominal tenderness

- Median hospital stay 3 days in both groups
- Recurrent diverticulitis at one year similar in both groups
- Conclusion – “Antibiotics for uncomplicated diverticulitis does not accelerate recovery”

Outpatient, non-antibiotic management in acute uncomplicated diverticulitis: a prospective study

D. Isacson^{1,3} · A. Thorisson^{2,3} · K. Andreasson¹ · M. Nikberg^{1,3} · K. Smedh^{1,3} · A. Chabok^{1,3}

155 patients

97.4 percent of patients managed successfully as outpatients with no antibiotics

2.6 percent required later admission and treatment with antibiotics not requiring surgery

Conclusion – “Outpatient management with acute uncomplicated diverticulitis is now shown to be feasible”

Is a diet restriction needed?

ORIGINAL ARTICLE

Dietary restrictions for acute diverticulitis: evidence-based or expert opinion?

Bryan J. M. van de Wall • Werner A. Draaisma •
Jan J. van Iersel • R. van der Kaaij •
Esther C. J. Consten • Ivo A. M. J. Broeders

- ⊗ All patients hospitalised with Hinchey 0, 1a and 1b diverticulitis between 2010 and 2011
- ⊗ 256 patients included

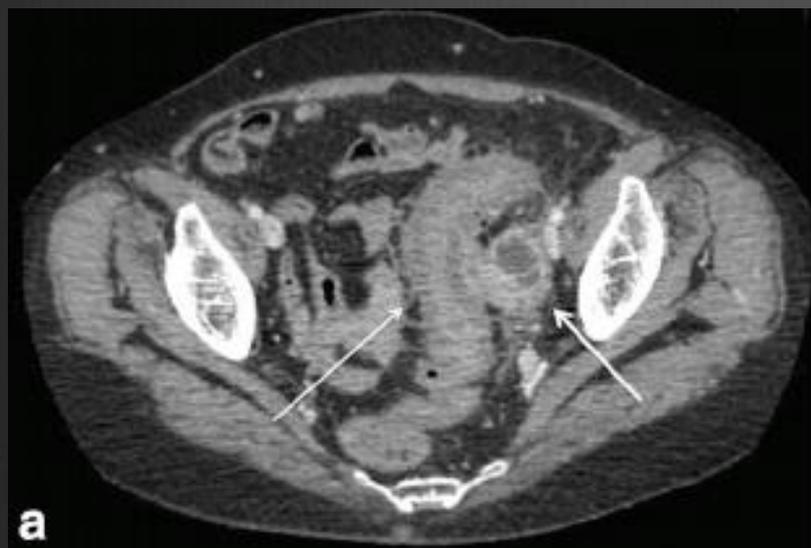
		Nil per os N=65	Clear liquid diet N=89	Liquid diet N=75	Solid foods N=29
Patient characteristics					
Gender	<i>Male</i>	30 (46,2%)	37 (41,6%)	28 (37,3%)	15 (55,6%)
Age (mean)	<i>years</i>	56,6 (13.1)	59,6 (12.3)	59,9 (14.7)	57,6 (14.8)
ASA	<i>I</i>	23 (35,4%)	44 (49,4%)	29 (38,7%)	11 (40,7%)
	<i>II</i>	36 (55,4%)	34 (38,2%)	41 (54,7%)	15 (55,6%)
	<i>III</i>	5 (7,7%)	10 (11,2%)	5 (6,7%)	1 (3,7%)
	<i>IV</i>	1 (1,5%)	1 (1,1%)	0 (0%)	0 (0%)
Physical/serologic examination					
Temperature (mean)	<i>Celsius</i>	37.7 (0.80)	37,5 (0.75)	37,4 (0.75)	37,3 (0.97)
CRP (mean)	<i>mg/liter</i>	118 (92.7)	114 (92.6)	103 (93.3)	83 (74.1)
Leucocyte count(mean)	10^9 /liter	12,9 (4.7)	12,5 (3.6)	11,9 (3.7)	11,9 (5.1)
Treatment					
Antibiotics		26 (40,6%)	25 (28,1%)	24 (32,0%)	7 (25,9%)
Days hospitalized (median)		5 (1-16)	4 (1-15)	3 (1-8)	3 (2-4)
Complications	<i>operatively</i>	1 (1.5%)	1 (1.1%)	0 (0%)	0 (0%)
	<i>conservatively</i>	1 (1.5%)	2 (2.2%)	1 (1.3%)	0 (0%)
N successive diets (median)		3 (2-4)	3 (1-3)	2 (1-2)	1

ASCRS guidelines

Medical Treatment of Acute Diverticulitis

1. Nonoperative treatment typically includes oral or intravenous antibiotics and diet modification. Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C.

2. Complicated diverticulitis with abscess
(Hinchey Ib or II)



Very few studies have evaluated antibiotic treatment alone versus radiological drainage

Outcome of Medical Treatment of Bacterial Abscesses Without Therapeutic Drainage: Review of Cases Reported in the Literature

David M. Bamberger

From the Section of Infectious Diseases, University of Missouri–Kansas City School of Medicine, Kansas City, Missouri

- ⊗ 1996
- ⊗ Success rate of medical therapy 85.9 percent
- ⊗ Less favourable medical therapy in abscesses greater than 5 cm

Factors Affecting the Successful Management of Intra-Abdominal Abscesses With Antibiotics and the Need for Percutaneous Drainage

Ravin R. Kumar, M.D.,¹ Justin T. Kim, M.D.,¹ Jason S. Haukoos, M.D., M.S.,^{2,3} Luis H. Macias, M.D.,¹ Matthew R. Dixon, M.D.,¹ Michael J. Stamos, M.D.,⁴ Viken R. Konyalian, M.D.¹

- ⊗ 2005
- ⊗ Retrospective review of 114 patients
- ⊗ 66 patients improved with medical therapy
- ⊗ More likely to fail when abscess greater than 6.5cm in size.

But things have changed since then...

- More accurate CT scanning
 - More accessible points in abdomen
 - Better experience and equipment
-
- So surgeons probably likely to use radiological drainage for smaller abscess

ASCRS guidelines

2. Image-guided percutaneous drainage is usually the most appropriate treatment for stable patients with large diverticular abscesses. Grade of Recommendation: Strong recommendation based on moderate-quality evidence, 1B.

CAN THESE PATIENTS WITH AN ABSCESS BE
MANAGED MEDICALLY?



Does the Presence of Abscesses in Diverticular Disease Prelude Surgery?

B. J. M. van de Wall • W. A. Draaisma • E. C. J. Consten •
R. T. van der Kaaij • M. J. Wiezer • I. A. M. J. Broeders

- Retrospective review of all patients between 2005 and 2011
- 59 patients with an abscess and 663 patients without
- Median follow up of 28 months

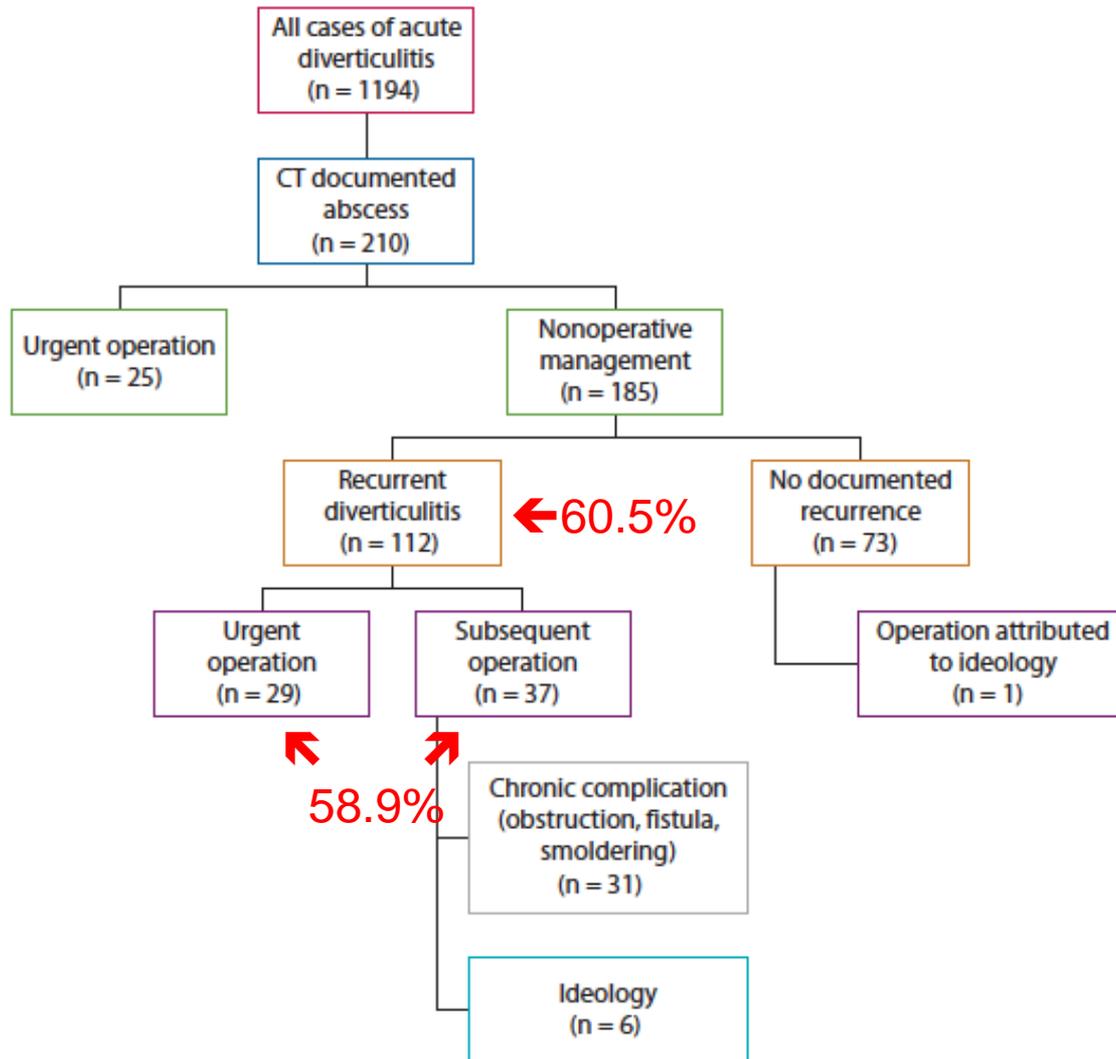
	Diverticulitis <i>without</i> abscess (Hinchey Ia), N=635	Diverticulitis <i>with</i> abscess (Hinchey Ib-II), N=54
Total follow-up (range)		
Median (months)	28 (12–103)	27.5 (12–81)
Readmission ^a		
Overall	94 (14.8 %)	18 (33.4 %)
Within 1 month	20 (3.1 %)	5 (9.3 %)
After 1 month	74 (11.7 %)	13 (24.1 %)
Readmission disease severity		
Uncomplicated	89 (14 %)	10 (18.4 %)
Complicated (abscess + perforation)	5 (0.8 %)	8 (15 %)
Abscess	4 (0.6 %)	4 (7.5 %)
Perforation	1 (0.2 %)	4 (7.5 %)
Surgical treatment		
Overall	124 (19.5 %)	22 (40.7 %)
Symptomatic stenosis ^b	17 (2.7 %)	4 (7.4 %)
Fistulae ^c	5 (0.8 %)	1 (1.9 %)
Perforation ^d	2 (0.3 %)	5 (9.3 %)
Persisting/recurring complaints ^e	100 (15.7 %)	12 (22.2 %)
Median time-to-event (range)		
Readmission: overall (months)	7.5 (0–73)	3 (0–58)
Readmission: <1 month (days)	8 (1–30)	24 (9–31)
Readmission: >1 month (months)	11 (1–73)	12 (1–58)

Medically Treated Diverticular Abscess Associated With High Risk of Recurrence and Disease Complications

Bikash Devaraj, M.D. • Wendy Liu, M.D. • James Tatum, M.D. • Kyle Cologne, M.D.
Andreas M. Kaiser, M.D.

Division of Colorectal Surgery, Department of Surgery, Keck School of Medicine, University of Southern California,
Los Angeles, California

- Review of all patients with a diverticular abscess between 2004 and 2014
- 210 patients



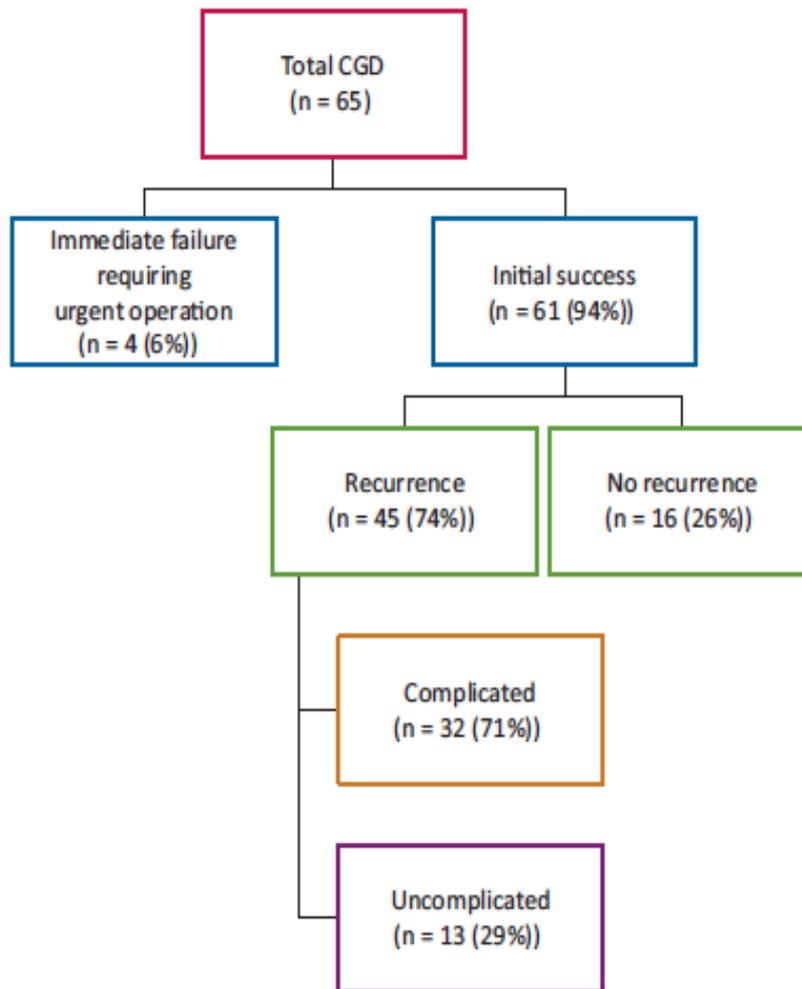


FIGURE 4. Outcomes of CT-guided drainage (CGD).

🎯 Key points:

- 🎯 Larger abscess were associated with a higher risk of recurrence (5.3cm vs 3.2cm)
- 🎯 Overall 59 percent of patients with a recurrence required surgery

ADVICE TO PATIENTS

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

- Retrospective review of 954 patients over 7 year period
- Overall recurrence at 5 years of 36 percent
- More likely to recur if:
 - Family history of diverticulitis
 - Long segment of colon involved
 - Retroperitoneal abscess

Diet changes

Nut, corn and popcorn consumption and the incidence of diverticular disease

[Lisa L. Strate](#), M.D., M.P.H., [Yan L. Liu](#), MS, [Sapna Syngal](#), M.D., M.P.H., [Walid H. Aldoori](#), M.D., M.P.A, Sc.D., and [Edward L. Giovannucci](#), M.D., Sc.D.

For many years patients have been advised to avoid nuts and seeds

Prospective study of 47228 men over 18 years

Inverse association between consumption of nuts and seeds, and incidence of diverticulitis

Conclusion – “No association between consumption of nuts and seeds and diverticulitis”

WHO SHOULD BE OFFERED
SURGERY?

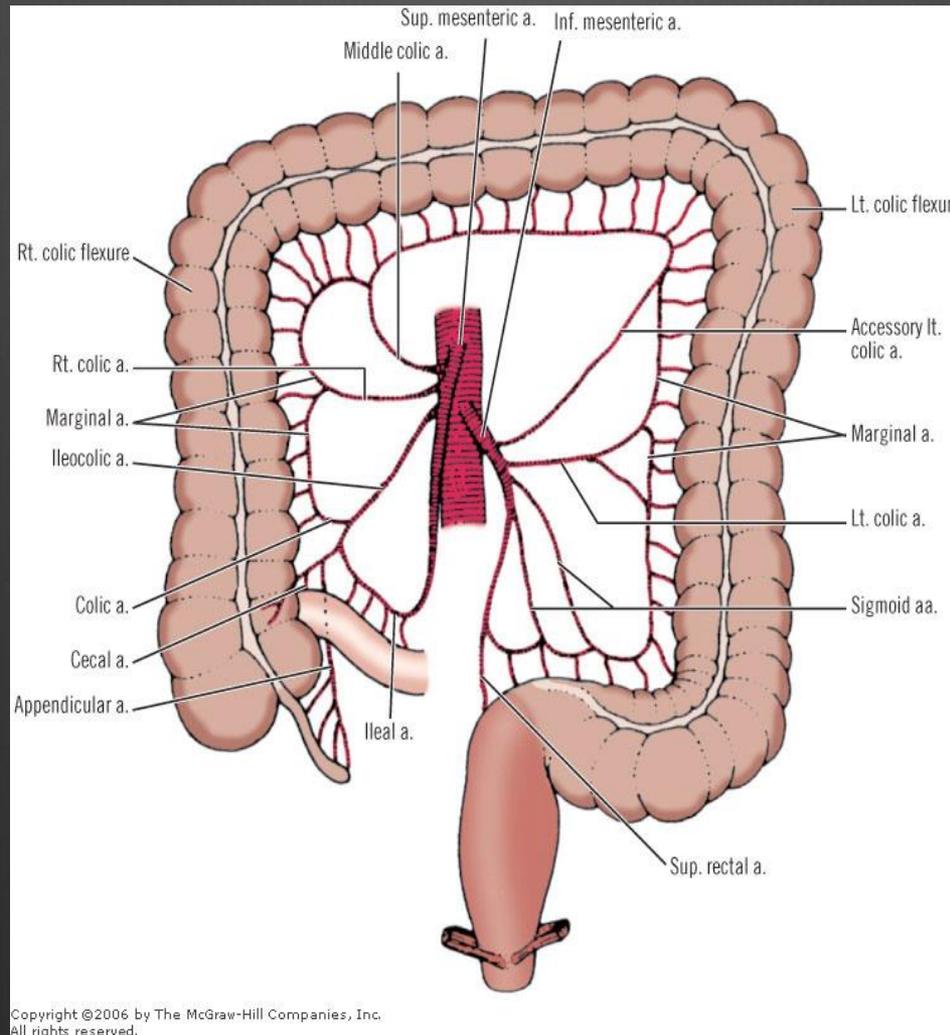
ASCRS Guidelines

Elective Surgery for Acute Diverticulitis

1. The decision to recommend elective sigmoid colectomy after recovery from uncomplicated acute diverticulitis should be individualized. Grade of Recommendation: Strong recommendation based on moderate-quality evidence, 1B.

SURGERY

Surgery – All about blood supply!

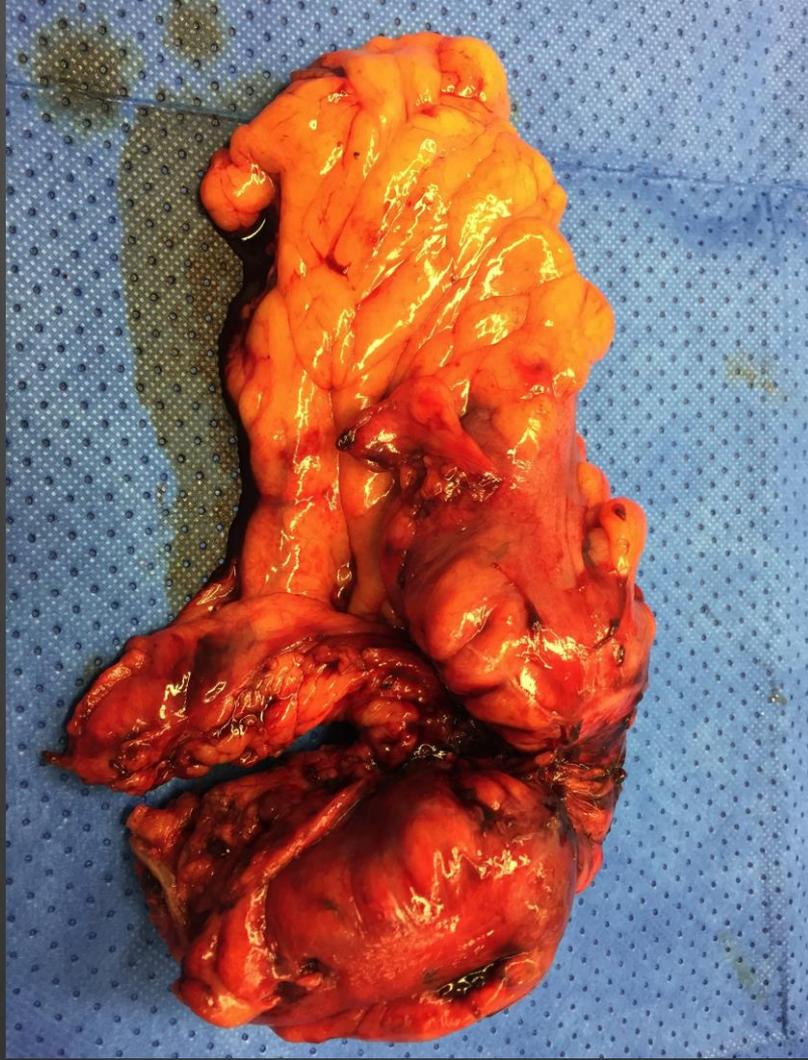


CASE

- ⊗ 68 year old gentleman presented to GP with left iliac fossa pain, peritonism and fevers
- ⊗ Previous attacks of diverticulitis 6 months and 2 years ago









Thank you