New Data in the Management of Diverticular Disease

Brennan Spiegel, MD, MSHS

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Implications of Finding?

What does this mean for the patient found to have incidental diverticulosis?
Implications of Finding?

What are the chances of a complication?

Diverticulosis ➔ Diverticulitis
Traditional Teaching

REFERENCES

8. Chia JG, Wilde CC, Ngei SS, et al. Trends of diverticular large inflammatory mass, extend to other organs and/or
patients into the categories of ‘diverticulosis’ and ‘diverticulitis’ (Morson, 1963; Parks et al, 1970; Ellis, 1972). Parks and his colleagues (1970) have shown that it is impossible on radiological grounds to make regularly an accurate distinction between the two variants, and the radiological report is not a reliable prognostic index of likely outcome of the disease. After careful assessment of all the clinical and radiological data and, where available, operative or autopsy findings, cases may be more accurately categorised, but even then it is inevitable that some will be misplaced. For these reasons the term diverticular disease is preferable.

Bearing these limitations in mind it has been estimated that between 10 and 25 per cent of patients with colonic diverticula develop peridiverticular inflammation at some period during their lifetime (Boles and Jordan, 1958; Horner, 1952; Waugh and Walt, 1962; Macowan and Wolff, 1952; Smithwick, 1942; Pemberton, Black and Maino, 1947; Brown and Marcley, 1937). The incidence also increases with the passage of time. In a series of 503 cases of diverticular disease followed up by Horner (1958) he reported that the incidence of inflammatory complications was 9.7 per cent after five years, 25 per cent at six to ten years and 36.7 per cent after eleven to eighteen years. Of 294 patients with colonic diverticula followed for ten to thirty years by Boles and Jordan (1958) 40 per cent developed at least one attack of diverticulitis or its complications and six per cent had two or more attacks.

Duration of symptoms
The duration and nature of the symptoms have an important bearing on the
Dogma vs. Data

- Few recent studies evaluate progression from colonic diverticulosis to diverticulitis

- One small study (n=119) found a 1.7% incidence over 5 years of follow-up
  - Study limited by small sample size
  - Exclusively focused on symptomatic disease
  - Incidence in asymptomatic diverticulosis unknown

Salem et al. Dis Colon Rectum. 2007;50(9):1460-4
Long-term Risk of Acute Diverticulitis Among Patients With Incidental Diverticulosis Found During Colonoscopy

KAMYAR SHAHEDI,1 GARTH FULLER,1 ROGER BOLUS,1,2 ERICA COHEN,1 MICHELLE VU,1 RENA SHAH,3 NIKHIL AGARWAL,1,4,5 MARC KANESHIRO,3,5 MARY ATIA,6 VICTORIA SHEEN,9 NICOLE KURZBARD,2 MARTIJN G. H. VAN OIJEN,1,7 LINNETTE YEN,11 PAUL HODGKINS,1 M. HAIM ERDER,1 and BRENNAN SPIEGEL1,4,7

1University of California Los Angeles Veteran’s Affairs Center for Outcomes Research and Education, Los Angeles, California; 2Division of Digestive Diseases, David Geffen School of Medicine at University of California Los Angeles, Los Angeles, California; 3Department of Gastroenterology, Veteran’s Affairs Greater Los Angeles Healthcare System, Los Angeles, California; 4Shire Development, LLC, Wayne, Pennsylvania; 5Department of Health Services, University of California Los Angeles School of Public Health, Los Angeles, California
Prevalent Diverticulosis (N=2222)

Diverticulitis (strict) N = 23
Incidence 1.5/1000 Patient-years

Diverticulitis N = 95
Incidence 6/1000 Patient-years

Median time to event:
85 months (7.1 years)

Time-to-Event Curves

Months from Diverticulosis

Cumulative Hazard

Age by decade

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<tr>
<th>Age, y</th>
<th>N</th>
<th>No. of diverticulitis cases</th>
<th>Person years</th>
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<td>14,983</td>
<td>0.043</td>
<td>6.3</td>
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CI, confidence interval.
Other Predictors of Diverticulitis

• Large (N=2,149,159) cohort study of Nationwide Inpatient Sample identified predictors of diverticulitis

• Independent predictors of admission:
  – Increasing age
  – White race
  – Obesity

The AGA suggests that antibiotics should be used selectively, rather than routinely, in patients with acute uncomplicated diverticulitis. *(Conditional recommendation, low quality of evidence).*

Two recent randomized trials and 2 systematic reviews have reported no clear benefit and questioned the routine use of antibiotics, as does this guideline, suggesting selective and individualized use. It is important to emphasize that the current data are of low quality, and recommendations could change as further studies are performed. Further, the patients studied were inpatients with uncomplicated disease confirmed by computed tomography (CT); therefore, the results should not be generalized to complicated patients (ie, those with abscesses or fistulas), those with signs of severe infection or sepsis, immunosuppressed patients, or patients with other significant comorbidities. This recommendation is conditional due to the low quality of current evidence. Additionally, outpatient management without antibiotics has not been studied, although we would expect these patients to have generally milder disease and logically equal or better outcomes.
**When to Perform Surgery?**

**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.

   Despite previous emphasis on the number of attacks dictating the need for surgery, the literature demonstrates that patients with more than 2 episodes are not at an increased risk for morbidity and mortality in comparison with patients who have had fewer episodes, signifying that diverticulitis is not a progressive disease. Rather, most patients who present with complicated diverticulitis do so at the time of their first attack. A decision analysis model has also demonstrated that elective resection following the fourth episode is not associated with an increased colostomy or mortality rate compared with the performance of surgery after the first episode.
The AGA suggests that colonoscopy be performed after resolution of acute diverticulitis in appropriate candidates to exclude the misdiagnosis of a colonic neoplasm if a high-quality examination of the colon has not been recently performed. \( \text{(Conditional recommendation, low quality of evidence)} \).
Figure 2.

Figure 3.

Chronic recurrent diverticulitis or colitis. As early as 1976, Kealy and colleagues observed a higher density of lymph node aggregates in macroscopic disease-free portions of colonic mucosa in subjects with diverticulosis, with most demonstrating a lymphocytic infiltrate in and around diverticula of patients without overt diverticulitis or colitis. Another putative mechanism of chronic diverticular disease is the mere presence of diverticula in the colon — this may be symptomatic or asymptomatic. “Diverticular disease” implies symptoms; this may be from verifiable macroscopic diverticulitis — i.e., inflammation of the diverticula — or in the absence of overt diverticulitis, called symptomatic uncomplicated diverticular disease (SUDD). Diverticulitis can be acute or recurrent episodes of traditional diverticulitis rather than SCAD. See text for details.

Another putative mechanism of chronic diverticular disease is the mere presence of diverticula in the colon — this may be symptomatic or asymptomatic. “Diverticular disease” implies symptoms; this may be from verifiable macroscopic diverticulitis — i.e., inflammation of the diverticula — or in the absence of overt diverticulitis, called symptomatic uncomplicated diverticular disease (SUDD). Diverticulitis can be acute or recurrent episodes of traditional diverticulitis rather than SCAD. See text for details.

Evolving pathophysiologic mechanisms for diverticular disease.

Traditional theories of diverticular pathogenesis involve trauma to or inflammation in and around diverticula leading to chronic dysbiosis, in turn promoting formation of pseudo-polyp development. Alternative theories emphasize immune or inflammatory factors, microbial factors, and the gut microbiota leading to chronic inflammation, similarly to theoretical models for IBS. Fecal stasis or nut particles, are hypothesized to lodge within diverticula and result in localized trauma, tissue ischemia, focal necrosis, and inflammation. Studies exploring each theory in the sections below.

Figure 2.

C a s e  s e r i e s  d e m o n s t r a t e  c h r o n i c  i n

amniation may also have a role in chronic diverticular disease. SCAD is a form of chronic colitis limited to areas of the colon with diverticula and sparing the rectum. Although now recognized as a distinct clinic-pathologic entity more like inflammatory bowel disease than traditional diverticulitis, others with chronic diverticulitis have disease than traditional diverticulitis. Others with chronic diverticulitis have which is a distinct clinic-pathologic entity more like inflammation may also have a role in chronic diverticular disease.
Diverticulosis

Acute diverticulitis
Figure 2. Proposed taxonomy of diverticular-related terms. Diverticulosis leads to diverticular disease and asymptomatic diverticulosis.
Similar to IBD, diverticular biopsies, or macroscopic, presenting in a manner diverticulosis, with most demonstrating a lymphocytic inflammation in random biopsies taken from 16 of 17 patients with endoscopically disease-free portions of colonic mucosa in subjects with observed a higher density of lymph node aggregates in macroscopic diverticulitis or colitis. As early as 1976, Kealy and colleagues mens taken from within and around diverticula of patients without fever demonstrated an increased density of lymphoid aggregates in diverticulosis compared to non-diverticulosis controls. Furthermore, patients with symptomatic diverticulitis or colitis have been shown to have a higher density of lymphoid aggregates than those without symptoms, suggesting a possible role for inflammation in the pathogenesis of diverticular disease.

However, a growing body of literature indicates that low-grade inflammation, in the absence of overt diverticulitis, may represent a significant factor in the development of diverticular disease. This has led to the proposal of a new classification system for diverticular disease, which includes the following categories:

- **Diverticulosis**: The mere presence of diverticula in the colon — either symptomatic or asymptomatic. 
- **Diverticular disease**: Symptoms or signs of diverticulitis, with or without a history of previous episodes. This may be acute or chronic. Some patients with chronic diverticulitis have a unique form of the disease, often associated with long-term, episodic symptoms.
- **Uncomplicated diverticular disease (SUDD)**: A subset of patients with diverticulitis who do not develop complications such as perforation or abscess formation.
- **Symptomatic uncomplicated diverticular disease (SUDD)**: A form of chronic colitis limited to areas of the colon with diverticula, characterized by inflammation, obstruction, and even atrophy of the colonic wall. SCAD is a form of chronic colitis limited to areas of the colon with diverticula, characterized by inflammation, obstruction, and even atrophy of the colonic wall.

While traditional theories of diverticular pathogenesis involve trauma to or obstruction of diverticula, more recent theories have highlighted the role of inflammation in the development of diverticular disease. Inflammation, microbiome shifts, and other factors may play a role in the progression of diverticular disease. Current theories suggest that chronic inflammation, similar to theoretical models for IBS, may be a significant factor in the development of diverticular disease. Furthermore, the role of in vivo inflammation in acute diverticulitis is well accepted, with inflammation also having a role in chronic diverticular disease. Further research is needed to fully understand the role of inflammation in the development and progression of diverticular disease.
Proposed taxonomy of diverticular-related terms. Diverticulosis can go hand-in-hand, and that traditional explanations may lead to chronic dysbiosis, in turn promoting formation of inflammation, similarly to theoretical models for IBS. Fecal stasis in intestinal microbiota leading to chronic inflammation, alterations in the commensal gut microbiota, visceral hypersensitivity, and abnormal colon motility have likely inter-related roles in diverticular disease. In addition to fiber, newer treatments including 5-ASA drugs, rifaximin, and probiotics are directed at these potential mechanisms.

The predominately anatomical theories are outlined in the previous review articles and guidelines. Beyond microscopic inflammation, alterations in gut microbiota as well as other factors, especially for chronic diverticular disease, may play a role.

We briefly explore each theory in the sections below.

Figure 2: Proposed taxonomy of diverticular-related terms. Diverticulosis can go hand-in-hand, and that traditional explanations may lead to chronic dysbiosis, in turn promoting formation of inflammation, similarly to theoretical models for IBS. Fecal stasis in intestinal microbiota leading to chronic inflammation, alterations in the commensal gut microbiota, visceral hypersensitivity, and abnormal colon motility have likely inter-related roles in diverticular disease. In addition to fiber, newer treatments including 5-ASA drugs, rifaximin, and probiotics are directed at these potential mechanisms.

Figure 3: Proposed taxonomy of diverticular-related terms. Diverticulosis can go hand-in-hand, and that traditional explanations may lead to chronic dysbiosis, in turn promoting formation of inflammation, similarly to theoretical models for IBS. Fecal stasis in intestinal microbiota leading to chronic inflammation, alterations in the commensal gut microbiota, visceral hypersensitivity, and abnormal colon motility have likely inter-related roles in diverticular disease. In addition to fiber, newer treatments including 5-ASA drugs, rifaximin, and probiotics are directed at these potential mechanisms.

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Evolving pathophysiologic mechanisms for diverticular disease.

- **Diverticulosis**
  - Diverticular disease
    - Diverticulitis
      - Acute diverticulitis
      - Chronic diverticulitis
        - Chronic recurrent Diverticulitis
        - SCAD = Segmental Colitis Associated with Diverticulosis
  - Asymptomatic diverticulosis
    - Symptomatic Uncomplicated Diverticular Disease (SUDD)
      - Diverticulitis recurrence and minimize symptoms following an attack of acute diverticulitis (discussed below) (26). Together, this may lead to chronic dysbiosis, in turn promoting formation of diverticulosis can go hand-in-hand, and that traditional explanations may lead investigators to de-emphasize these anatomic factors, especially for chronic diverticular disease (visceral hypersensitivity, and abnormal colon motility have likely inter-related roles in inflammation, alteration in the commensal gut microbiota, visceral hypersensitivity, and abnormal motility as potential etiologic factors, especially for chronic diverticular disease)

- **INTESTINAL MICROBIOTA**
  - Low-grade inflammation did not correlate well with symptom intensity. In addition, 5-ASA drugs traditionally used in IBD appear to reduce inflammation, macroscopic colitis has been described in patients with SCAD (29). Case series reveal that in patients with SCAD (29), indicating that SCAD may be a forme fruste of IBD. SCAD is a form of chronic colitis limited to areas of the colon with diverticula and sparing the rectum. Although now recognized as an entity in its own right, SCAD is not a true diverticulitis in that it results from microscopic inflammation, similarly to theoretical models for IBS (30). Fecal stasis may lead to chronic dysbiosis, in turn promoting formation of micro-perforation.

- **Proposed taxonomy of diverticular-related terms.**
  - Diverticulosis
  - Diverticular disease
    - Diverticulitis
      - Acute diverticulitis
      - Chronic diverticulitis
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Am J Gastroenterol. 2012;107:1486-93

SCAD – Key Points

• May be *forme fruste* of IBD, but is a distinct disorder
• More common in older adults and males
• Typically located in sigmoid colon around diverticulosis
• Characteristically spares the rectum
• Histology may show granulomas and architectural distortion
• Often resolves itself or typically responds to 5-ASA
• Usually self-limited → if not, consider IBD

Freeman HJ. *World J Gastro* 2016; 22:8067
Lamps LW, Knapple WL. *Clin Gastro Hep* 2007;5:27
Proposed taxonomy of diverticular-related terms. Diverticulosis predominantly anatomical theories are outlined in the previous review articles and guidelines (6,19–22). In contrast, more recent theories de-emphasize these anatomic mechanisms, and instead posit inflammatory, microbiome shifts, visceral hypersensitivity, and abnormal colon motility as potential etiologic factors, especially for chronic diverticular disease (25) documenting chronic inflammation did not correlate well with symptom intensity. In addition, 5-ASA drugs traditionally used in IBD appear to reduce inflammation, microbiome shifts, visceral hypersensitivity, and abnormal colon motility have likely inter-related roles in symptom development in some patients with diverticular disease.

Evolving pathophysiologic mechanisms for diverticular disease.

**Figures:**
- **Figure 1:** Proposed taxonomy of diverticular-related terms.
- **Figure 2:** The mere presence of diverticula in the colon — this may be symptomatic but not macroscopic diverticulitis — i.e., inflammation of the colon involving local trauma and obstruction are probably insufficient.
- **Figure 3:** Asymptomatic diverticulosis. SCAD is a form of chronic colitis limited to areas of the colon with diverticula. Current theories suggest that chronic inflammation may also have a role in chronic diverticular disease.

**Table:**

<table>
<thead>
<tr>
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</tr>
</tbody>
</table>
SUDD and IBS

• Similar symptom profiles

• Conditions overlap in cross-sectional studies\textsuperscript{1,2}

• Overlapping pathophysiology:\textsuperscript{3}
  – Chronic, low-grade inflammation
  – Alterations in gut microbiota
  – Visceral hypersensitivity
  – Abnormal colonic motility

\textsuperscript{1}Jung HK, et al. \textit{Am J Gastroenterol} 2010;105:652-61.
\textsuperscript{3}Strate, Modi, Cohen, Spiegel. \textit{Am J Gastroenterol}. 2012;107:1486-93
Unanswered Question

Can diverticulitis *cause* IBS?

**Increased Risk for Irritable Bowel Syndrome After Acute Diverticulitis**

ERICA COHEN,* GARTh FULLER,† ROGER BOLUS,‡ RUSHa MODI,*‡ MICHELLE VU,* KAMYAR SHAHEDI,¶ RENA SHAH,¶ MARY ATIA,* NICOLE KURZBARD,∥ VICTORIA SHEEN,¶ NIKHIL AGARWAL,*∥ MARC KANESHIRO,* LINNETTE YEN,* PAUL HODGKINS,* M. HAIM ERDER,∥ and BRENNAN SPIEGEL*∥∥

*Department of Gastroenterology, VA Greater Los Angeles Healthcare System; †UCLA/VA Center for Outcomes Research and Education; ‡Division of Digestive Diseases, David Geffen School of Medicine at UCLA; ∥Department of Health Services, UCLA School of Public Health, Los Angeles, California; and ∥∥Shire Pharmaceuticals, Wayne, Pennsylvania
Incidence of IBS in Cases vs. Controls

Adjusted HR=4.7; 95% CI=1.6-14; p=0.006
Incidence of any FGID in Cases vs. Controls

Adjusted HR=2.4; 95% CI=1.6-3.6; p<0.001

Incidence of Depression in Cases vs. Controls

Adjusted HR=2.2; 95% CI=1.4-3.5; p<0.001
Quality of Life Research
July 2014

Date: 25 Jul 2014

Development and validation of a disease-targeted quality of life instrument for chronic diverticular disease: the DV-QOL

Brennan M. R. Spiegel, Mark W. Reid, Roger Bolus, Cynthia B. Whitman, Jennifer Talley, Stanley Dea, Kamyar Shahedi, Hetal Karsan, Chassidy Teal, Gil Y. Melmed, Erica Cohen, Garth Fuller, Linnette Yen, Paul Hodgkins, M. Haim Erder
Quality of Life Network in SUDD*

*Derived from interviews of 55 SUDD patients

Diverticular Physical Symptoms

Diverticular Cognitions and Concerns

- defines self through disease
- self-loathing
- infected
- dying inside
- poisoned
- something wrong/something inside
- fear
- cancer
- death
- confusion
- embarrassment
- lack of control
- self perception

Diverticular Impact / Consequences

- loss of concentration
  - anxiety
  - anger/frustration
  - depression
  - isolation
  - stigma
  - work
  - sexual
  - sleep

- psychological
- social

impact/consequences~

Another putative mechanism of chronic diverticular disease is the role of visceral hypersensitivity, and abnormal colon motility have likely inter-related roles in the development of diverticular disease. In addition to fiber, newer evidence suggests that microscopic inflammation may be microscopic, identified in biopsy specimens, and even granulomas and chronic architectural distortion are described in patients with SCAD (29). Case series reveal that in some patients (10%), SCAD evolves into frank IBD (29).

In contrast, more recent theories de-emphasize these anatomic mechanisms, and instead posit inflammation may also have a role in chronic diverticular disease. The role of inflammation in acute diverticulitis is well accepted. However, a growing body of literature indicates that low-grade inflammation in and around diverticula of patients without diverticular biopsies, or macroscopic, presenting in a manner similar to IBD.

Inflammation in acute diverticulitis is well accepted. However, a growing body of literature indicates that low-grade inflammation in and around diverticula of patients without diverticular biopsies, or macroscopic, presenting in a manner similar to IBD.

Central-Acting Agents

Alterations in gut microbiota

Abnormal colon motility

Visceral hypersensitivity

Low-grade inflammation

Diverticular disease

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RCT for Symptom Reduction: 5-ASA+Probiotics v. Placebo
RCT for Diverticulitis Prevention: 5-ASA v. Placebo

(A) SAG-37

<table>
<thead>
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<th>Group</th>
<th>Patients (%)</th>
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<td>Mesalazine 3.0 g</td>
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<td>Placebo</td>
<td>74.4%</td>
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P = 0.226

(B) SAG-51

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<td>Mesalazine 1.5 g</td>
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<td>75</td>
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<tr>
<td>Placebo</td>
<td>56.0%</td>
<td>81</td>
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P = 0.860

Kruis W et al. APT 2017;46:282
Meta-Analyses: Rifaximin vs. Placebo

Symptom Reduction (NNT=3)

Diverticulitis Prophylaxis (NNT=50)
Fiber and Diverticular Disease

- Recent studies call into question low dietary fiber as a risk factor for diverticulosis

- Unclear whether dietary interventions can modify risk of diverticular complications and symptoms

- Data limited in SUDD:
  - Small studies
  - Uncontrolled observations
  - Mainly retrospective
Nut, Corn, and Popcorn Consumption and the Incidence of Diverticular Disease

Lisa L. Strate, MD, MPH
Yan L. Liu, MS
Sapna Syngal, MD, MPH
Walid H. Aldoor, MD, MPA, ScD
Edward L. Giovannucci, MD, ScD

Diverticular disease is a common and costly digestive disorder in Western countries. One-third of the US population will develop diverticulosis by the age of 60 years and two-thirds by the age of 85 years.\(^3\) Complications, including diverticulitis and diverticular bleeding, occur in an estimated 10% to 35% of persons with diverticulosis.\(^5\) Treatment of these complications frequently necessitates hospitalization and invasive procedures, including surgery. At least $2.4 billion in direct health care costs and 3,400 deaths are attributed to diverticulosis in the United States each year.\(^6\) and the medical and economic impact of this disorder is likely to increase substantially as the population ages.

Context  Patients with diverticular disease are frequently advised to avoid eating nuts, corn, popcorn, and seeds to reduce the risk of complications. However, there is little evidence to support this recommendation.

Objective  To determine whether nut, corn, or popcorn consumption is associated with diverticulitis and diverticular bleeding.

Design and Setting  The Health Professionals Follow-up Study is a cohort of US men followed up prospectively from 1986 to 2004 via self-administered questionnaires about medical (biennial) and dietary (every 4 years) information. Men reporting newly diagnosed diverticulosis or diverticular were mailed supplemental questionnaires.

Participants  The study included 47,228 men aged 40 to 75 years who at baseline were free of diverticulosis or its complications, cancer, and inflammatory bowel disease and returned a food-frequency questionnaire.

Main Outcome Measures  Incident diverticulitis and diverticular bleeding.

Results  During 18 years of follow-up, there were 801 incident cases of diverticulitis and 383 incident cases of diverticular bleeding. We found inverse associations between nut and popcorn consumption and the risk of diverticulitis. The multivariate hazard ratios for men with the highest intake of each food (at least twice per week) compared with men with the lowest intake (less than once per month) were 0.80 (95% confidence interval, 0.63-1.01; \(P\) for trend = 0.04) for nuts and 0.72 (95% confidence interval, 0.56-0.92; \(P\) for trend = 0.007) for popcorn. No associations were seen between corn consumption and diverticulitis or between nut, corn, or popcorn consumption and diverticular bleeding or uncomplicated diverticulosis.

Conclusions  In this large, prospective study of men without known diverticular disease, nut, corn, and popcorn consumption did not increase the risk of diverticulosis or diverticular complications. The recommendation to avoid these foods to prevent diverticular complications should be reconsidered.
### Tricyclic Antidepressants in IBS

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<th>Treatment n/N</th>
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<td>Vahedi 2008</td>
<td>8/27</td>
<td>16/27</td>
<td></td>
<td>5.02</td>
<td>0.50 (0.26 to 0.97)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td><strong>319</strong></td>
<td><strong>256</strong></td>
<td><strong>67.56 0.68 (0.56 to 0.83)</strong></td>
<td><strong>67.56</strong></td>
<td><strong>67.56 0.68 (0.56 to 0.83)</strong></td>
</tr>
</tbody>
</table>

**NNT = 4**

Overall risk of diverticulitis remains small in patients with asymptomatic diverticulosis, but higher in younger patients.

Diverticular disease can be a chronic medical illness – not just an acute disease managed by surgeons.

SCAD may be IBD variant, but is clinically and pathologically distinct & usually self-limited.

SUDD looks a lot like IBS, but may be something different – yet treated similarly.

HRQOL is diminished in many patients with SUDD – can affect physical, social, and emotional health.

Post-diverticulitis IBS (PDV-IBS) may be real, but we need more data.
Diverticular Disease as a Chronic Illness: Evolving Epidemiologic and Clinical Insights

Lisa L. Strate, MD, MPH, Rusha Modi, MD, Erica Cohen, MD and Brennan M.R. Spiegel, MD, MSHS

Diverticular disease imposes a significant burden on Western and industrialized societies. The traditional pathogenesis model posits that low dietary fiber predisposes to diverticulosis, and fecalith obstruction prompts acute diverticulitis that is managed with broad-spectrum antibiotics or surgery. However, a growing body of knowledge is shifting the paradigm of diverticular disease from an acute surgical illness to a chronic bowel disorder composed of recurrent abdominal symptoms and considerable psychosocial impact. New research implicates a role for low-grade inflammation, sensory-motor nerve damage, and dysbiosis in a clinical picture that mimics irritable bowel syndrome (IBS) and even inflammatory bowel disease (IBD). Far from being an isolated event, acute diverticulitis may be the catalyst for chronic symptoms including abdominal pain, cramping, bloating, diarrhea, constipation, and “post-diverticulitis IBS.” In addition, studies reveal lower health-related quality of life in patients with chronic diverticular disease vs. controls. Health-care providers should maintain a high index of suspicion for the multifaceted presentations of diverticular disease, and remain aware that it might contribute to long-term emotional distress beyond traditional diverticulitis attacks. These developments are prompting a shift in therapeutic approaches from