GUIDELINE SYNTHESIS

Management of Acute Uncomplicated Diverticulitis

Guidelines Being Compared:

1 American Gastroenterological Association Institute (AGAI)

American Gastroenterological Association Institute guideline on the management

2015 Dec 01

View Summary >

2 American Society of Colon and Rectal Surgeons (ASCRS)

Practice parameters for the treatment of sigmoid diverticulitis.

2014 Mar 01

View Summary >

Areas of Agreement and Difference

A direct comparison of recommendations presented in the above guidelines for the management of acute uncomplicated diverticulitis is provided. The ASCRS guideline also provides recommendations for the initial evaluation of acute diverticulitis and management of complicated disease—topics which are beyond the scope of this synthesis. See the ASCRS guideline summary for recommendations on these topics.

AGAI and ASCRS acknowledge that antibiotics have historically been the cornerstone of acute diverticulitis treatment, and discuss the emerging view that the disease may be a primary inflammatory—rather than an infectious—process. Both guideline developers cite a 2012 randomized trial and systematic review that reported no clear benefit of routine antibiotic use in the treatment of acute uncomplicated diverticulitis. AGAI also cites more recent (2014) evidence supporting this alternative (inflammatory) pathogenesis of the disease. On the basis of the available data, the guideline developers agree that antibiotic therapy may be appropriate as part of the nonoperative treatment of acute uncomplicated diverticulitis, but that routine antibiotic use in this context can no longer be recommended. AGAI and ASCRS both acknowledge the low quality of current data and note that guidance may change when higher-quality evidence becomes available.

Colonoscopy After Recovery from Acute Diverticulitis

AGAI and ASCRS address the use of colonoscopy following resolution of acute diverticulitis in order to exclude other diagnoses—most notably colonic neoplasia—in patients who have not recently undergone a high-quality colon examination. On the basis of low-quality evidence, the guideline developers are in agreement that colonoscopy may be appropriate in this context and should be considered. AGAI cites the following factors that may influence the decision to perform a colonoscopy after an episode of acute diverticulitis: timing and completeness of a prior colonoscopy; comorbidities; persistent symptoms of abdominal pain or diarrhea; and patient preferences. In the absence of data informing the optimal timing of follow-up colonoscopy, both AGAI and ASCRS agree that 6 to 8 weeks following resolution of the acute episode is an appropriate and commonly followed interval.

Recurrence Prevention

According to ASCRS, while limited evidence suggests a protective benefit for supplemental fiber, rifaximin, antispasmodics, mesalamine, and probiotics, their role in the prevention of diverticulitis remains to be defined. AGAI addresses several of these agents and, similarly to ASCRS, does not recommend routine use of any. With regard to dietary fiber supplementation, AGAI states that although both the certainty and the magnitude of its benefit in patients with

substantial risk to patients. In light of the very low-quality evidence base, patient preferences and side effects of fiber such as abdominal bloating should be considered when counseling a patient, adds the developer. Also on the basis of very low quality evidence, AGAI conditionally suggests against the routine use of rifaximin and probiotics in patients with acute uncomplicated diverticulitis in order to reduce recurrence rates. AGAI makes a **Strong** recommendation against the use of mesalamine after acute uncomplicated diverticulitis. According to the developer, the currently available evidence, moderate in quality and more robust than for most of the other agents evaluated, does not suggest efficacy in reducing the risk of recurrence, resolution of pain, or need for surgery in patients with acute uncomplicated diverticulitis.

AGAI also addresses the following interventions, all of which are based on data derived from observational studies of incident episodes of diverticulitis: consumption of nuts and popcorn; aspirin use; nonaspirin NSAID use; and vigorous physical activity. Citing a lack of compelling evidence, AGAI suggests against routinely advising patients with a history of acute diverticulitis to avoid consumption of nuts and popcorn, as well as the use of aspirin. Vigorous physical activity and avoidance of nonaspirin NSAIDs are, however, suggested by the developer.

Elective Colonic Resection

AGAI and ASCRS agree that the decision to recommend elective, prophylactic colonic resection after recovery from an initial episode of acute uncomplicated diverticulitis should be individualized. AGAI suggests against it, stating that while a reduction in risk of recurrent diverticulitis after elective surgery may exist, the magnitude of this benefit is difficult to ascertain based on limited data. Both guideline developers address the higher incidence of recurrent diverticulitis in young people and associated poor clinical outcomes—factors which have historically been used as indications for elective surgery following acute diverticulitis. Both AGAI and ASCRS challenge this notion, citing more recent data that do not support elective surgery in this patient population following acute uncomplicated diverticulitis. As such, ASCRS makes a strong recommendation against routine elective resection based on young age (<50 years). This recommendation focuses on discouraging the use of age as the

process. In addition to age and patient preference, AGAI names immunosuppression and access to medical care for recurrent diverticulitis as aspects to consider. ASCRS cites the effects on lifestyle (professional and personal) imposed by recurrent attacks, severity of attacks, inability to exclude carcinoma, as well as chronic or lingering symptoms that may constitute "smoldering" disease. ASCRS also addresses immunosuppressed patients, a subgroup in which medical management is more likely to fail. The developer recommends that surgeons maintain a low threshold to recommend operative intervention as definitive treatment during the first hospitalization for acute diverticulitis in these patients.

Areas of Difference

There are no significant areas of disagreement between the guidelines.

Comparison of Recommendations

Management of Acute Uncomplicated Diverticulitis

AGAI (2015)	**Question 1.** Should antibiotics be routinely used in patients with acute uncomplicated diverticulitis? The AGA Institute suggests that antibiotics should be used selectively, rather than routinely, in patients with acute uncomplicated diverticulitis. (**Conditional recommendation, Low quality of evidence**). **Question 2**. Should a colonoscopy be performed after an episode of acute diverticulitis confirmed by CT scan? 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. (**Conditional recommendation, Low quality of evidence**). **Question 3**. Should elective colonic resection be performed after an initial episode of acute uncomplicated diverticulitis?

prophylactic colonic resection in this setting should be individualized. (**Conditional recommendation, Very low quality of evidence**).

Question 4. Should a high fiber diet, rather than a regular diet, be advised in patients with a history of acute diverticulitis?

The AGA suggests a fiber-rich diet or fiber supplementation in patients with a history of acute diverticulitis. (**Conditional recommendation, Very low quality of evidence**).

Question 5. Should consumption of nuts and popcorn be avoided in patients with a history of acute diverticulitis?

The AGA suggests against routinely advising patients with a history of acute diverticulitis to avoid consumption of nuts and popcorn. (**Conditional recommendation, Very low quality of evidence**).

Question 6. Should aspirin be avoided in patients with a history of acute diverticulitis?

The AGA suggests against routinely advising patients with a history of acute diverticulitis to avoid the use of aspirin. (**Conditional recommendation, Very low quality of evidence**).

Question 7. Should nonaspirin NSAIDs be avoided in patients with a history of acute diverticulitis?

The AGA suggests advising patients with a history of diverticulitis to avoid the use of nonaspirin NSAIDs if possible. (**Conditional recommendation, Very low quality of evidence**).

Question 8. Should mesalamine rather than placebo be used in patients with a history of acute uncomplicated diverticulitis?

	evidence). **Question 9**. Should rifaximin rather than placebo be used in patients with a history of acute uncomplicated diverticulitis? The AGA suggests against the use of rifaximin after acute uncomplicated diverticulitis. (**Conditional recommendation, Very low quality of evidence**). **Question 10**. Should probiotics rather than placebo be used in patients with a history of acute uncomplicated diverticulitis? The AGA suggests against the use of probiotics after acute uncomplicated diverticulitis. (**Conditional recommendation, Very low quality of evidence**). **Question 11**. Should vigorous physical activity rather than regular activity be encouraged in patients with a history of acute diverticulitis? The AGA suggests advising patients with diverticular disease to consider vigorous physical activity. (**Conditional recommendation, Very low quality of evidence**).
ASCRS (2014)	**Note**: See the NGC guideline summary for recommendations on the initial evaluation of acute diverticulitis and the management of complicated disease—topics which are beyond the scope of this synthesis. **Medical Treatment of Acute Diverticulitis** • Nonoperative treatment typically includes oral or intravenous antibiotics and diet modification. **Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C**. **Evaluation After Recovery from Acute Diverticulitis** • After resolution of an episode of acute diverticulitis, the colon should typically be endoscopically evaluated to confirm the diagnosis, if this is a first episode or recent colonoscopy has not been performed. **Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C**. **Elective Surgery for Acute Diverticulitis**

	Recommendation: Strong recommendation based on moderate-quality evidence, 1B. • Routine elective resection based on young age (<50 years) is no longer recommended. **Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C**. **Technical Considerations** • The extent of elective resection should include the entire sigmoid colon with margins of healthy colon and rectum. **Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C**. • When expertise is available, the laparoscopic approach to elective colectomy for diverticulitis is preferred. **Grade of Recommendation: Strong recommendation based on high-quality evidence, 1A**. • A leak test of the colorectal anastomosis should be performed during surgery for sigmoid diverticulitis. **Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C**. • Ureteral stents are used at the discretion of the surgeon. **Grade of Recommendation: Weak recommendation based on low-quality evidence, 2C**. • Oral mechanical bowel preparation is not required; however, the use of oral antibiotics may decrease surgical site infections after elective colon resection. **Grade of Recommendation: Strong recommendation based on moderate-quality evidence, 1B**. • Elective colectomy for diverticulitis may be performed by sparing the superior hemorrhoidal artery or according to cancer surgery principles. **Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C**.

Strength of Evidence and Recommendation Grading Schemes

AGAI	Grading of Recommendations Assessment, Development and Evaluation

High	The Committee is very confident that the true effect lies close to that of the estimate of the effect.
Moderate	The Committee is moderately confident in the effect estimate. The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low	The Committee's confidence in the effect estimate is limited. The true effect may be substantially different from the estimate of the effect.
Very low	The Committee has very little confidence in the effect estimate. The true effect is likely to be substantially different from the estimate of effect.

GRADE Categories of Strength of Recommendation

	For the Patient	For the Clinician

		situation would want the recommended course of action and only a small proportion would not.	receive the recommended course of action. Formal decision aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.
	Conditional	The majority of individuals in this situation would want the suggested course of action, but many would not.	Different choices will be appropriate for different patients. Decision aids may well be useful helping individuals making decisions consistent with their values and preferences. Clinicians should expect to spend more time with patients when working towards a decision.

ASCRS (2014)

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) System–Grading Recommendations[a]

	Description	Benefit vs Risk and Burdens	Methodological Quality of Supporting Evidence	Implications

			Supporting Evidence	
1A	Strong recommendation, high-quality evidence	Benefits clearly outweigh risk and burdens or vice versa	RCTs without important limitations or overwhelming evidence from observational studies	Strong recommendation, can apply to most patients in most circumstances without reservation
1B	Strong recommendation, moderate-quality evidence	Benefits clearly outweigh risk and burdens or vice versa	RCTs with important limitations (inconsistent results, methodological flaws, indirect or imprecise) or exceptionally strong evidence from observational studies	Strong recommendation, can apply to most patients in most circumstances without reservation

			Supporting Evidence	
1C	Strong recommendation, low- or very-low-quality evidence	Benefits clearly outweigh risk and burdens or vice versa	Observational studies or case series	Strong recommendation but may change when higher quality evidence becomes available
2A	Weak recommendation, high-quality evidence	Benefits closely balanced with risks and burdens	RCTs without important limitations or overwhelming evidence from observational studies	Weak recommendation, best action may differ depending on circumstances or patients' or societal values

			Supporting Evidence	
2B	Weak recommendations, moderate-quality evidence	Benefits closely balanced with risks and burdens	RCTs with important limitations (inconsistent results, methodological flaws, indirect or imprecise) or exceptionally strong evidence from observational studies	Weak recommendation, best action may differ depending on circumstances or patients' or societal values
2C	Weak recommendation, low- or very-low-quality evidence	Uncertainty in the estimates of benefits, risks and burden; benefits, risk, and burden may be closely balanced	Observational studies or case series	Very weak recommendations other alternatives may be equally reasonable

RCT = randomized controlled trial.

[a]Adapted from Guyatt G, Gutterman D, Baumann MH, et al. Grading strength of recommendations and quality of evidence in clinical guidelines: report from an American College of Chest Physicians Task Force. Chest. 2006;129:174–181. Used with permission.

Methodology

(2015)	(2014)
The AGAI guideline was developed from a systematic review of the evidence, details of which are provided in a separate technical report (see the “Availability of Companion Documents” field of the NGC summary). AGAI also performed an original meta-analysis and reviewed published meta-analyses to inform the guideline recommendations. The AGAI technical review contains all of the relevant methodological information regarding the search, selection and evidence analyses processes, including evidence tables. ASCRS provides details of the literature search conducted for the diverticulitis guideline, including the names of databases searched, search terms used and date range applied. To assess the quality and strength of the evidence, both AGAI and ASCRS weighted it according to a rating scheme and provide the scheme. The guideline developers employed expert consensus in order to formulate the guideline recommendations. Both AGAI and ASCRS also categorize the strength of the individual recommendations using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology and provide the rating scheme. AGAI sought both external and internal peer review in order to validate its guideline; a description of the validation process is provided.	

Benefits and Harms

Benefits

AGAI (2015)	• Appropriate management of acute diverticulitis • Possible reduction in risk of recurrent diverticulitis
ASCRS (2014)	Appropriate evaluation and treatment of patients with sigmoid diverticulitis

Harms

AGAI (2015)	• Aspirin use may cause a slightly increased risk of occurrence of any episode of diverticulitis.

	• Although an increased risk of recurrent diverticulitis or colonic perforation is a concern in patients undergoing colonoscopy after an episode of acute diverticulitis, this was not reported as an adverse event in the available literature. • Approximately 10% of patients managed with elective sigmoid resection after an episode of acute diverticulitis experience short-term complications of surgery, including wound infection, anastomotic leak, and cardiovascular/thrombotic events. Such postoperative risks are increased in patients older than 65 years of age. • Long-term complications of abdominal distention, cramping, altered defecation, and fecal incontinence are reported in 25% of patients after elective surgery. • Side effects of fiber such as abdominal bloating
ASCRS (2014)	The decision to recommend elective surgery should be individualized to each patient and should consider the risks of operative therapy. Potential poor functional outcomes and persistent abdominal symptoms after elective sigmoid colectomy for diverticulitis should be considered as well.

Abbreviations

AGAI, American Gastroenterological Association Institute

ASCRS, American Society of Colon and Rectal Surgeons

CT, computed tomography

GRADE, Grading of Recommendations Assessment, Development and Evaluation

NSAID, nonsteroidal anti-inflammatory drug

RCT, randomized controlled trial

Status