

First-time, Mild Diverticulitis: Antibiotics or Watchful Waiting?

Don't jump to antibiotics for mild, uncomplicated diverticulitis, a recent clinical trial says. Observation may be just as effective.

Bob Marshall, MD, MPH, MSM, FAAFP, Shailendra Prasad, MBBS, MPH, Mary Alice Noel, MD, Jeffrey Burket, MD, FAAFP, Michael Arnold, DO, FAAFP, Benjamin Arthur, MD, Nick Bennett, DO, Ashley Smith, MD

PRACTICE CHANGER

For mild, CT-proven acute diverticulitis, consider observation only instead of antibiotic therapy.

STRENGTH OF RECOMMENDATION

B: Based on a single randomized controlled trial.¹

A 58-year-old man presents to your office with a 2-day history of moderate (6/10) left lower quadrant pain, mild fever (none currently), 2 episodes of vomiting, no diarrhea, and no relief with OTC medications. You suspect diverticulitis and obtain an abdominal CT scan, which shows mild, uncomplicated (Hinchey stage 1a) diverticulitis. How would you treat this patient?

Diverticulitis is common; each year, about 200,000 people in the United States are admitted to the hospital because of it.^{2,3} Health care providers typically treat diverticular disease with antibiotics and bowel rest.^{2,3} While severe forms of diverticulitis often require parenteral antibiotics and/or surgery, practitioners are increasingly managing the condition with oral antibiotics.⁴

One previous randomized controlled trial (RCT; N = 623) found that antibiotic treatment for acute uncomplicated diverticulitis did not speed recovery or prevent complications (perforation or abscess formation) or recurrence at 12 months.⁵ The study's strengths included limiting enrollment to people with CT-proven diverticulitis, using a good randomization and concealment

process, and employing intention-to-treat analysis. The study was limited by the lack of a standardized antibiotic regimen across centers, previous diverticulitis diagnoses in 40% of patients, nonuniform follow-up processes to confirm anatomic resolution, and the lack of assessment to confirm resolution.⁵

STUDY SUMMARY

Watchful waiting just as effective as antibiotics

This newer study was a single-blind RCT that compared treatment with antibiotics to observation among 528 adults in the Netherlands. Patients were enrolled if they had CT-proven, primary, left-sided, uncomplicated acute diverticulitis (Hinchey stage 1a and 1b).¹ (The Hinchey classification is based on radiologic findings, with 0 for clinical diverticulitis only, 1a for confined pericolic inflammation or phlegmon, and 1b for pericolic or mesocolic abscess.⁶) Exclusion criteria included suspicion of colonic cancer by CT or ultrasound (US), previous CT/US-proven diverticulitis, sepsis, pregnancy, or antibiotic use in the previous 4 weeks.¹

Observational vs antibiotic treatment. Enrolled patients were randomly assigned to receive amoxicillin-clavulanate (1,200 mg by IV qid for at least 48 hours, followed by 625 mg po tid, for 10 total days; n = 266) or to be observed (n = 262). Randomization was performed by computer, with a random varying block size and stratification by Hinchey classification and center; allocation was concealed. The investigators were masked to the allocation until all analyses were completed.¹

The primary outcome was the time to functional recovery (resumption of pre-illness work activities) during a 6-month follow-up period. Secondary outcomes included hospital readmission rate; complicated, ongoing, and recurrent diverticulitis; sigmoid resection;

Bob Marshall, Mary Alice Noel, Jeffrey Burket, Michael Arnold, Benjamin Arthur, Nick Bennett, and Ashley Smith are with the Madigan Family Medicine Residency in Gig Harbor, Washington. Shailendra Prasad is in the Department of Family Medicine and Community Health at the University of Minnesota in Minneapolis.

other nonsurgical intervention; antibiotic adverse effects; and all-cause mortality.

Results. Median recovery time for observational treatment was not inferior to antibiotic treatment (14 d vs 12 d; hazard ratio for functional recovery, 0.91). Observation was not inferior to antibiotics for any of the secondary endpoints at 6 and 12 months of follow-up: complicated diverticulitis (3.8% vs 2.6%, respectively), recurrent diverticulitis (3.4% vs 3%), readmission (17.6% vs 12%), or adverse events (48.5% vs 54.5%). Initial hospitalization length of stay was shorter in the observation group (2 vs 3 d). The researchers conducted a 24-month telephone follow-up, but no differences from the 12-month follow-up were noted.¹

WHAT'S NEW

Study looked at true patient-oriented outcome

Previous studies of treatment options for acute uncomplicated diverticulitis looked at short-term outcomes, or at readmission, recurrence, and surgical intervention rate or requirement for percutaneous drainage.^{7,8} This study is the first to look at functional return to work (a true patient-oriented outcome). And it is the only study to follow up at 24 months to gauge long-term outcomes with observational treatment.

CAVEATS

Can't generalize to worse cases

It is worth noting that the findings of this study apply only to the mildest form of CT-proven acute diverticulitis (those patients classified as having Hinchey 1a disease) and are not generalizable to patients with more severe forms. Not enough patients with Hinchey 1b acute diverticulitis were enrolled in the study to reach any conclusions about treatment.

Various guidelines issued outside the United States recommend antibiotics for uncomplicated diverticu-

litis; however, the American Gastroenterological Association (AGA) indicates that antibiotics should be used selectively.^{1,9,10} This recommendation was based on an emerging understanding that diverticulitis may be more inflammatory than infectious in nature. The AGA guideline authors acknowledge that their conclusion was based on low-quality evidence.⁹

CHALLENGES TO IMPLEMENTATION

None to speak of

We see no challenges to implementing this recommendation. **CR**

ACKNOWLEDGEMENT

The PURLs Surveillance System was supported in part by Grant Number UL1RR024999 from the National Center For Research Resources, a Clinical Translational Science Award to the University of Chicago. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Center For Research Resources or the National Institutes of Health.

Copyright © 2018. The Family Physicians Inquiries Network. All rights reserved.

Reprinted with permission from the Family Physicians Inquiries Network and *The Journal of Family Practice* (2018;67[7]:435-436,438).

REFERENCES

- Daniels L, Ünlü Ç, de Korte N, et al, for the Dutch Diverticular Disease (3D) Collaborative Study Group. Randomized clinical trial of observational versus antibiotic treatment for a first episode of CT-proven uncomplicated acute diverticulitis. *Br J Surg*. 2017;104:52-61.
- Wheat CL, Strate LL. Trends in hospitalization for diverticulitis and diverticular bleeding in the United States from 2000 to 2010. *Clin Gastroenterol Hepatol*. 2016;14:96-103.e1.
- Matrana MR, Margolin DA. Epidemiology and pathophysiology of diverticular disease. *Clin Colon Rectal Surg*. 2009;22:141-146.
- Shabanzadeh DM, Wille-Jørgensen P. Antibiotics for uncomplicated diverticulitis. *Cochrane Database Syst Rev*. 2012;11:CD009092.
- Chabok A, Pählman L, Hjerrn F, et al. Randomized clinical trial of antibiotics in acute uncomplicated diverticulitis. *Br J Surg*. 2012;99:532-539.
- Klarenbeek BR, de Korte N, van der Peet DL, et al. Review of current classifications for diverticular disease and a translation into clinical practice. *Int J Colorectal Dis*. 2012;27:207-214.
- Tandon A, Fretwell VL, Nunes QM, et al. Antibiotics versus no antibiotics in the treatment of acute uncomplicated diverticulitis - a systematic review and meta-analysis. *Colorectal Dis*. 2018;20(3):179-188.
- Feingold D, Steele SR, Lee S, et al. Practice parameters for the treatment of sigmoid diverticulitis. *Dis Colon Rectum*. 2014;57:284-294.
- Stollman N, Smalley W, Hirano I; AGA Institute Clinical Guidelines Committee. American Gastroenterological Association Institute guideline on the management of acute diverticulitis. *Gastroenterology*. 2015;149:1944-1949.
- Sartelli M, Viale P, Catena F, et al. 2013 WSES guidelines for management of intra-abdominal infections. *World J Emerg Surg*. 2013;8:3.