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Discussing Diverticular Dilemmas

Dr. Buch:

Good day, ReachMD – *GI Insight* listeners! This is your host, Dr. Peter Buch. Today we will be discussing diverticular dilemmas. It's a pleasure learning with you today. The format will be slightly different from our usual presentations, since we will be discussing some very complex and controversial subjects. So who's ready to learn?

Should antibiotics be routinely used with acute uncomplicated diverticulitis? Diverticular disease is highly prevalent and increasing in the United States. It is estimated that anywhere between 4 to 14 percent of patients who have diverticuli will develop acute diverticulitis. Acute uncomplicated diverticulitis is defined as diverticulitis without a fistula, perforation, abscess, or obstruction. Antibiotic therapy for acute uncomplicated diverticulitis has been the traditional approach. Then Chabok challenged this tradition with a randomized trial of antibiotics versus no antibiotics in acute uncomplicated diverticulitis, as noted in the *British Journal of Surgery*, way back in 2012. The prospective study included 623 patients, with uncomplicated diverticulitis. Uncomplicated diverticulitis inclusion criteria in this study included acute lower abdominal pain with tenderness, temperature over 38 degrees Celsius, raised white blood count and CRP, and signs of diverticulitis on CAT scan. Exclusion criteria included fistula, abscess, and free air. Interestingly, all patients in the Chabok study were followed in the hospital. The conclusion was, "Antibiotic treatment of acute uncomplicated diverticulitis neither accelerates recovery nor prevents complications." And the study was originally done in order to understand whether acute diverticulitis patients really needed antibiotics and to, of course, rein in antibiotic resistance. It's important to note, and it was theorized, that acute diverticulitis may be more inflammatory than infectious. Several other studies have tried to answer the question of antibiotic use in acute uncomplicated diverticulitis. And here's a list of confounders in these studies, and there are many of them. Some have all patients admitted, whether getting antibiotics or not, just as we had seen before. Some had a mixture of in- and outpatient observation. Only one study had only outpatient observation. And further confusing this issue is the severity of acute diverticulitis, some studies including both uncomplicated and complicated diverticulitis. The majority of these studies did not address comorbidities, and many additional limitations exist as well. The American Gastroenterological Association Institute guideline on the management of acute diverticulitis in 2015 suggests that antibiotics should be used selectively rather than routinely. Yet, different societies have different guidelines. Centor, in the *Annals of Internal Medicine*, 2015, reemphasizes that the majority of data is of poor quality and the question of antibiotic use in acute uncomplicated diverticulitis needs further study. He states his approach very eloquently, and I quote, "We have not received a charge to change our practices, and I fully agree."

Should a colonoscopy be performed after an episode of acute diverticulitis confirmed by CAT scan? Routine colonoscopic evaluation, after an episode of diverticulitis, to look for colon cancer has been the standard of care for years. The AGA, in 2015, endorsed this conditional recommendation, low-quality evidence. The 2020 American Society of Colon and Rectal Surgeons also makes this recommendation. The absence of a mass lesion on CAT scan, in a patient with acute diverticulitis, does not exclude a colon cancer, and there are CAT scan signs more likely to harbor a malignancy, including abscess, a shelf-like appearance in an inflammatory mass, obstruction, and lymph adenopathy. Tehrani, in *Gastrointestinal Endoscopy* 2019, found colon cancer in 2.7% of patients diagnosed initially as acute diverticulitis. There was a 5% adenoma detection rate as well. An important meta-analysis by Sharma further defines the colon cancer risk. He demonstrated an 11% risk of malignancy in complicated diverticulitis, again manifested by fistula, abscess, perforation or obstruction, and a 0.7% colon cancer risk in uncomplicated diverticulitis, and this is noted in the *Annals of Surgery*, 2014. And herein is a very important distinction: that colon cancer is much more likely to exist with complicated diverticulitis than uncomplicated diverticulitis. So let's address some additional other questions in this area. Question number one: If the patient had a screening colonoscopy five years ago and now has acute diverticulitis, do they need a repeat colonoscopy? The answer to this was partially addressed in the AGA guidelines. Factors that influence this decision include timing and completeness of prior colonoscopy,

comorbidities, persistent symptoms of abdominal pain or diarrhea, patient preferences. These guidelines further state, “The risk of colonoscopy may be higher in patients with chronic diverticulitis, acute recurrent diverticulitis, or complicated diverticulitis.” Let’s move on to the next question. How soon after acute diverticulitis should the colonoscopy be undertaken? This, too, was addressed in the 2015 AGA guidelines. The optimal timing is poorly defined. Severity and duration of symptoms weigh in this decision, however, intervals of six to eight weeks after resolution are commonly used. Let’s go to the next question. Is there an increased risk of colonic perforation in those patients undergoing colonoscopy after acute diverticulitis? There appears to be no additional risk, although such studies are very limited. And another question: How accurate is CT colonography in diagnosing colon cancer after acute diverticulitis? As per Pickhardt, in *Radiology*, 2011, CT colonography and colonoscopy have similar diagnostic sensitivity under these circumstances, and I add my additional comment, colonoscopy still remains the standard of care.

Until recently, there was a guideline to recommend elective surgery after two episodes of acute uncomplicated diverticulitis. Why was this changed? First, just to clarify, we are discussing acute uncomplicated diverticulitis here. We are not discussing complicated diverticulitis, manifested by fistula, abscess, obstruction, or perforation. Patients with complicated diverticulitis are approached emergently. The surgical approach to diverticulitis has evolved, and here are the facts: Elective surgery leads to lower mortality and fewer complications than emergent surgery. Elective surgery can generally avoid a colostomy. It is equally important to avoid surgery in those patients with low risk of recurrence. Way back in 2000, the American Society of Colon and Rectal Surgeons published a guideline recommending elective surgery after two episodes of uncomplicated diverticulitis or one episode of complicated diverticulitis. Since then, further studies have led to a change. Around 75% of acute diverticulitis is uncomplicated, and can be treated without surgery, as per Shahedi in *Clinical Gastroenterology and Hepatology*, 2013. In addition, Janes, in the *British Journal of Surgery*, 2005, demonstrated that after an initial episode of diverticulitis, the risk of needing emergency surgery with a stoma is one in 2,000 patient years. This low number is the basis of a changing paradigm. A retrospective study of over 84,000 patients hospitalized for diverticulitis, performed by Simianu, in the *Annals of Surgery*, 2014, showed an elective colectomy rate that doubled without a decrease in subsequent interventions, including emergency surgery. To further understand the risks involved after the first, second, third, or even fourth attack of acute uncomplicated diverticulitis, Ho, in the *Journal of Trauma and Acute Care Surgery*, 2015, retrospectively studied over 181,000 patients who were successfully treated. This study included uncomplicated and complicated acute diverticulitis, and the study found the following: 91.3% of patients with acute uncomplicated diverticulitis had no further admissions. However, there is another smaller group whose recurrence rates increased with each episode. We now practice a much more individualized approach, primarily based on several considerations: morbidity and mortality risk, especially for the elderly with diverticulitis; frequency; severity and time interval of diverticulitis episodes; need for hospitalization, for acute uncomplicated diverticulitis; residual symptoms; prescient preferences; the fact that recurrent diverticulitis may not be more serious than the first episode. Of course, we must always weigh our approach on a case-by-case basis.

And as a further subcategory here, how should we approach acute uncomplicated diverticulitis in immune-suppressed individuals? Immunosuppressed patients with diverticular disease have a 60% risk of developing complications, as per Brandl in the *Canadian Journal of Surgery* in 2016. The American Society of Colon and Rectal Surgeons, Clinical Practice Guidelines for the Treatment of Left-sided Colonic Diverticulitis, 2020 states the following recommendations: the decision to offer sigmoid colectomy after recovery from uncomplicated acute diverticulitis in immune-suppressed patients should be individualized – and this is a strong recommendation with low-quality evidence. From the same guideline, there is reference to the National Surgical Quality Improvement Program Database that compared 736 immunosuppressed patients versus 21,980 non-immunosuppressed patients. Both groups had similar sigmoidectomy for diverticulitis. The study found similar mortality but increased morbidity and wound dehiscence in the immunosuppressed group. Another retrospective study by Biondo, in the *American Journal of Surgery* in 2012, compared 107 immunosuppressed patients with acute diverticulitis, both complicated and uncomplicated, with 550 non-immunosuppressed patients with acute diverticulitis, both complicated and uncomplicated. Immunosuppressed patients who had complicated acute diverticulitis were more likely to have a recurrence or need emergency surgery. The article concludes that immunosuppressed patients with acute uncomplicated diverticulitis, treated non-operatively, generally do not require surgery. Yet unfortunately, there’s a lack of data as to how to approach immunosuppressed patients with acute uncomplicated diverticulitis, due to such specific causes as organ transplant, end-stage renal disease, or collagen vascular disease. Again, in this complex situation, we must always approach the problem on a case-by-case basis.

What is the parting message I wish to share? Treatment paradigms for acute diverticulitis have changed. Additional studies are yet to be done. I look forward to using these future studies to fine-tune our approach. This is Dr. Peter Buch, from ReachMD – *GI Insights*, looking forward to learning with you next time. Thank you very much.