

Evaluating the Patient with Left Lower Quadrant Abdominal Pain



Nicholas A. Bodmer, MD^{a,*}, Kiran H. Thakrar, MD^b

KEYWORDS

- Diverticulitis • Epiploic appendagitis • Urolithiasis • Colitis • Stercoral perforation
- Retroperitoneal hematoma • Rectus sheath hematoma

KEY POINTS

- Diverticulitis management is determined by computed tomography findings, including the presence and size of abscesses and free peritoneal air.
- Urinary tract stone size and location predict passage. Density and skin-to-stone distance predict treatment success.
- Stercoral perforation occurs in the setting of fecal impaction and is a surgical emergency.
- Epiploic appendagitis is an imaging diagnosis. The management is nonsurgical.
- Spontaneous retroperitoneal and rectus sheath hemorrhage typically occur in patients on anticoagulant medication but without supratherapeutic international normalized ratio or activated partial thromboplastin time.

INTRODUCTION

Abdominal pain is the most common reason to visit the emergency department (ED) in the United States, accounting for 11% of all adult noninjury visits from 2007 to 2008 in a Centers for Disease Control and Prevention and National Hospital Ambulatory Medical Care Survey. In this database, 17% of patients were eventually found to have a serious diagnosis and 20% were admitted, transferred, or died.¹ No published study has teased out the epidemiology of abdominal pain by quadrant. Therefore, the incidence of left lower quadrant pain compared with right lower quadrant pain, for example, is unknown.

Advanced imaging for abdominal pain in the ED increased from 20% of cases in 1999 to 2000 to 44% in 2007 to 2008 in the United States.¹ However, a more recent study found decreased growth of computed tomography (CT) and MR imaging,

and a significant decline in overall imaging ordered per ED visit between 2004 and 2012.² Given the cost and prevalence of imaging, there is controversy about overutilization. A study examining the yield of CT for abdominal pain found that it detected a cause of abdominal pain in 48% of patients. An unsuspected diagnosis was found in 27%. Predictors of a positive CT included being a pediatric patient, having leukocytosis, and having a specified pre-CT diagnosis.³

Left lower quadrant pain may be caused by gastrointestinal, urinary, mesenteric, vascular, and musculoskeletal disease processes. The type of imaging evaluation is dictated by the clinical differential diagnosis. CT is indicated for left lower quadrant pain when diverticulitis is suspected to confirm the diagnosis, evaluate the severity, or identify other causes of pain. Ultrasound is indicated for suspected gynecologic causes of pain. MR imaging may be used in special situations

Author disclosures: none.

^a Department of Radiology, Advocate Good Samaritan Hospital, 3815 Highland Avenue, Downers Grove, IL 60515, USA; ^b Department of Radiology, Evanston NorthShore University, 2650 Ridge Avenue, Evanston, IL 60201, USA

* Corresponding author.

E-mail address: nbodmer@gmail.com

Radiol Clin N Am 53 (2015) 1171–1188

<http://dx.doi.org/10.1016/j.rcl.2015.06.005>

0033-8389/15/\$ – see front matter © 2015 Elsevier Inc. All rights reserved.

when radiation exposure is of high concern, such as in pregnant patients, pediatric patients, or those with multiple prior CT examinations.

ACUTE DIVERTICULITIS

Epidemiology

Acute diverticulitis is a common cause of left lower quadrant pain (**Box 1**). In Western countries, colonic diverticula are seen in 5% of the population by 40 years of age, 33% to 50% after 50 years of age, and in more than 50% of the population after 80 years of age.^{4,5} The sigmoid colon is estimated to be involved in up to 95% of patients.⁶

It is estimated that 10% to 25% of patients with diverticulosis will develop diverticulitis.^{7,8} The true incidence is probably less, with one study demonstrating an incidence closer to 4% in Department of Veterans of Affairs patients.⁹ In 2012, diverticulosis and diverticulitis are listed as the discharge diagnosis of 305,700 patients in the US, accumulating \$10.7 billion in charges.

Pathophysiology

Diverticulitis occurs when a diverticulum becomes inflamed or perforated. The exact mechanism is unclear but may be secondary to inflammation of the mucosal lining of the diverticular wall by inspissated fecal material leading to erosion and subsequent perforation.^{4,5} It is important to realize that the inflammatory change begins at the apex of the diverticulum and that it spreads into the adjacent pericolonic fat.^{4,5}

Clinical Presentation

The classic clinical triad of acute diverticulitis is left lower quadrant pain, fever, and leukocytosis. These 3 findings are not always present. Abdominal pain, sometimes vague, is the most likely to

be present.¹⁰ The severity of the clinical presentation can help to determine whether patients can be treated as outpatients, need to be hospitalized, or in more severe cases require emergent radiologic and surgical intervention.

Imaging

Methods and techniques

CT is the gold standard in the evaluation of acute diverticulitis. It evaluates the extent of colonic and extracolonic findings and guides management when combined with the clinical picture. CT has a reported accuracy of up to 99%.^{11,12} The American College of Radiology's (ACR) appropriateness criteria recommend CT with intravenous (IV) contrast as the first-line imaging in patients with suspected acute diverticulitis.¹³ Oral or rectal contrast is not necessary in the acute setting but may identify fistulae in the chronic setting. Although diverticulitis can be seen without IV contrast, evaluating for abscess is made clear with the use of IV contrast.

Although CT is the primary modality in suspected diverticulitis, ultrasound may be ordered for patients with ambiguous abdominal pain and for pregnant patients. Although ultrasound does well in uncomplicated diverticulitis, there is significant discordance with CT in more complicated cases and, hence, may adversely affect clinical decision making.¹⁴

MR imaging is sensitive and specific in diagnosing diverticulitis. One study demonstrated sensitivity of 94% and specificity of 88%.¹⁵ Currently, MR imaging has a limited role in patients with suspected diverticulitis, given long scan times, susceptibility artifact from bowel gas, and the high cost. MR imaging may be considered in special situations, such as the evaluation of a pregnant woman.

Box 1

Diverticulitis key points

Pearls	Bowel wall thickening, pericolonic inflammation, and diverticulosis are the most sensitive findings. Inflamed diverticula may be hyperdense on noncontrast CT.
Pitfalls	Hinchey classification system guides treatment of diverticulitis. Perforated colon cancer can mimic perforated diverticulitis. Avoid search satisfaction and evaluate for complications, such as portal vein thrombosis and small bowel obstruction. Colovesical fistulae may be suggested by soft tissue stranding extending from the colon to a thickened bladder wall, sometimes with gas in an uncatheterized bladder.
Controversies	Antibiotics may not be necessary for uncomplicated diverticulitis. Antiinflammatory medication alone may be adequate. Follow-up colonoscopy to exclude colon cancer is not necessary in all cases.

Download English Version:

<https://daneshyari.com/en/article/4246692>

Download Persian Version:

<https://daneshyari.com/article/4246692>

[Daneshyari.com](https://daneshyari.com)