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Mimickers of Acute Appendicitis

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Introduction

Acute abdominal pain is the most common reason for an emergency department visit among patients age 15 and older, a large portion of them will complain of pain localizing to the right lower quadrant. While appendicitis is the most common cause of the surgical abdomen, a wide variety of acute gastrointestinal, genitourinary, and gynecological pathologic processes can present in similar fashion (Table 1). Acute gastrointestinal diseases, such as Crohn’s disease, infectious enterocolitis, mesenteric adenitis, cecal diverticulitis, Meckel’s diverticulitis, epiploic appendagitis, and omental infarcts can present with right lower quadrant. In addition, acute genitourinary diseases, such as pyelonephritis and ureterolithiasis, can present with similar symptoms. In a young woman, acute gynecological disease processes, such as ovarian torsion, hemorrhagic ovarian cyst, pelvic inflammatory disease, and ectopic pregnancy, should also be considered within the differential diagnosis.

Imaging modalities utilized in the emergency setting to evaluate right lower quadrant pain include computed tomography (CT), ultrasound (US), and magnetic resonance imaging (MRI). These modalities may be value-added for patients with nonspecific symptoms, thus it is useful to triage surgical and nonsurgical patients. It is important for the practicing radiologist to be familiar with the various acute disease entities which can cause right lower quadrant pain in order to determine the best approach or modality to make an accurate diagnosis.

Imaging of the appendix

The most common imaging modality for the evaluation of the right lower quadrant pain is MDCT. MDCT has a sensitivity of 97%, specificity of 98%, and accuracy of 98% in diagnosing acute appendicitis, with the additional benefit of suggesting an alternative diagnosis for acute abdominal pain in up to two-thirds of patients. The presence of intravenous and enteric contrast aids in identification of the appendix.

The appendix arises from the cecum inferior to the ileocecal junction (Fig. 1). MDCT signs of acute appendicitis include appendiceal diameter > 7 mm with peri-appendiceal stranding of the mesenteric fat (Fig. 2A). Both findings are present in up to 93% of appendicitis cases identified on MDCT. The diagnosis of appendicitis should not be made using appendiceal diameter alone; wall thickening and increased enhancement should also be present. Additional findings include the presence of an appendicolith, cecal apical thickening (“arrowhead sign”), mesenteric adenopathy, fluid in the paracolic gutter, and the presence of phlegmon. A focal wall defect, extraluminal air, or presence of an abscess are signs of perforation. While MDCT is currently the preferred imaging modality, in the pediatric and pregnant patient ultrasound as well as MRI has been shown to perform comparable to CT.

Ultrasound has a sensitivity and specificity of 78% and 83%, respectively. The most common findings in appendicitis are diameter > 6 mm, lack of compressibility, hyperemia of the appendiceal wall on Doppler imaging, peri-appendiceal inflammatory changes, and the presence of peritoneal fluid (Fig. 2B). Occasionally, a calcified appendicolith may be seen with posterior shadowing (Fig. 2C). However, ruling out appendiceal pathology is often difficult with US if the appendix cannot be visualized. One study reported positive ultrasound findings for appendicitis in about 20% of cases, but equivocal findings in almost 50% of cases (i.e. inability to identify the appendix). Evaluation of the right lower quadrant is particularly difficult in pregnant women due to distorted abdominal and pelvic anatomy (particularly in the third trimester). MRI has been shown to be superior at localizing the appendix in comparison to ultrasound, with a sensitivity and specificity of up to 89% and 99%.
<table>
<thead>
<tr>
<th>Pathology</th>
<th>Imaging Appearance</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gastrointestinal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crohn’s Disease</td>
<td>Bowel wall thickening and mural stratification, most commonly involving the terminal ileum. Chronic inflammation may result in fibrofatty proliferation along the mesenteric side of the bowel wall. Fistulas and abscesses may form.</td>
<td>Initially medical. Indications for surgery include obstruction due to fibrotic stricture, perforation, abscess formation, and fistulas not able to be managed medically.</td>
</tr>
<tr>
<td>Diverticulitis</td>
<td>Thick-walled diverticulum with adjacent infiltrative changes; short or long-segment bowel wall thickening. Abscesses may form.</td>
<td>Medical. Surgical intervention may be necessary for medically refractory cases, large abscesses, and fistula formation.</td>
</tr>
<tr>
<td>Infectious Enterocolitis</td>
<td>Long-segment circumferential wall thickening, usually without mesenteric fat stranding.</td>
<td>Medical.</td>
</tr>
<tr>
<td>Mesenteric Adenitis</td>
<td>Cluster of 3 or more right lower quadrant lymph nodes &gt;5 mm in shortest diameter, without identifiable cause.</td>
<td>Medical.</td>
</tr>
<tr>
<td>Neutropenic Colitis (Typhlitis)</td>
<td>Distended and thick-walled cecum, infiltrative changes, pericolic fluid.</td>
<td>Medical. High risk of bowel perforation; CT may be used to monitor treatment response.</td>
</tr>
<tr>
<td>Meckel’s Diverticulitis</td>
<td>Blind-ending tubular structure in the right lower quadrant arising from the distal ileum; infiltrative changes, wall thickening, and hyperenhancement may be seen.</td>
<td>Surgical resection.</td>
</tr>
<tr>
<td>Epiploic Appendagitis</td>
<td>Pericolic fatty mass with surrounding inflammatory changes, most commonly in the transverse and descending colon. A central thrombosed vein may be identified.</td>
<td>Medical.</td>
</tr>
<tr>
<td>Omental Infarct</td>
<td>Pericolic fatty mass with surrounding inflammatory changes, most commonly in the right hemiabdomen between the colon and the anterior abdominal wall.</td>
<td>Medical.</td>
</tr>
<tr>
<td><strong>Genitourinary/Gynecological</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urolithiasis</td>
<td>Obstructing calculus with hydronephrosis +/- hydroureter.</td>
<td>Medical, unless calculus large.</td>
</tr>
<tr>
<td>Pyelonephritis</td>
<td>Imaging most often normal. May see striated nephrogram or delayed contrast excretion on CT. US may show loss of corticomedullary differentiation.</td>
<td>Medical.</td>
</tr>
<tr>
<td>Ovarian Torsion</td>
<td>US: Enlarged and heterogeneous ovary; may be midline. May see reduced or absent venous flow.</td>
<td>Surgical detorsion.</td>
</tr>
<tr>
<td>Hemorrhagic Ovarian Cyst</td>
<td>US: Finely septated “fishnet” pattern of fibrin bands; retractile clot or avascular peripheral nodule non-acutely.</td>
<td>None.</td>
</tr>
<tr>
<td>Pelvic Inflammatory Disease</td>
<td>Dilated tubular structures representing Fallopian tubes with wall thickening. Ipsilateral ovary may be enlarged.</td>
<td>Medical.</td>
</tr>
<tr>
<td>Ectopic Pregnancy</td>
<td>Non-visualization of an intrauterine pregnancy with positive beta-hCG. US: May see yolk sac, detect fetal heartbeat, or see “ring of fire” sign of peripheral hypervascularity around adnexal mass.</td>
<td>Medical but may require surgical intervention.</td>
</tr>
<tr>
<td>Mittelschmerz</td>
<td>Normal. May see physiologic fluid in the pelvis.</td>
<td>None.</td>
</tr>
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Table 1. Overview of gastrointestinal and genitourinary causes of right lower quadrant pain.
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On MRI, the appearance of acute appendicitis includes an appendiceal diameter > 7 mm and adjacent fat stranding that is often best appreciated on T2 fat saturated sequences. An inflamed appendix demonstrates restricted diffusion. The appendix may be filled with high T2 fluid or edema, which decreases in signal intensity if the fluid is purulent (higher debris and protein content). Appendicoliths are low in T1 and T2 signal intensity, with blooming artifact on GRE images. A periappendiceal abscess is identified as a walled-off high T2 fluid collection with restricted diffusion. An appendix filled with high T2 fluid and diameter of 6-7 mm is indeterminate (if no adjacent fat stranding of fluid) and should be closely followed up.

Differential Diagnosis

Crohn's Disease

Crohn's disease can involve any segment of the gastrointestinal tract, but the most common location is within the terminal ileum. Patients often present with abdominal cramps localized within right lower quadrant and bloody stools. The initial presentation typically occurs between 15 and 30 years of age.

The imaging features of Crohn's disease consist of bowel wall thickening (greater than 4 mm), mural stratification ("target" or stratified appearance of the bowel wall due to submucosal edema), and abnormal enhancement (Fig. 3). Active inflammation leads to engorgement of vasa recta (the "comb sign"). Chronic inflammation results in fibrofatty proliferation along the mesenteric side of the bowel wall, creating the "creeping fat" sign. Over time, the chronic
inflammatory process of Crohn’s disease can result intramural or interloop abscesses. Fistulous anastomosis with the bowel, bladder, skin, and vagina can occur. This is best evaluated by MDCT or MRI enterography, which utilize IV contrast during the late arterial phase and low density oral contrast to facilitate evaluation of the small bowel mucosa.\(^1\) Bowel wall thickening (>3mm) and stratification, mucosal hyperenhancement, wall thickening, and adjacent inflammatory changes. The appendix is normal (yellow arrow). MR enterography in the same patient 2 years later (B) demonstrates wall thickening and fibrosis without adjacent inflammatory changes, consistent with sequela of multiple prior Crohn’s flares.

### Mesenteric Adenitis

Mesenteric adenitis, or right lower quadrant lymphadenopathy, is defined as a cluster of 3 or more lymph nodes greater than 5 mm in shortest diameter in the right lower quadrant mesentery (Fig. 4).\(^1\) Primary mesenteric adenitis is thought to be due to an underlying ileitis. Secondary mesenteric adenitis has an identifiable cause on MDCT, such as appendicitis or Crohn’s disease. Patients present with abdominal pain, fever, and leukocytosis. This is an uncommon diagnosis, but may be considered in patients whose only imaging abnormality is focal mesenteric lymphadenopathy.

### Infectious Enterocolitis

Infectious enterocolitis can present clinically similar to appendicitis, particularly if caused by pathogens such as *Yersinia, Campylobacter*, or *Salmonella*, which may cause ileocolitis.\(^2,3\) The imaging findings on MDCT involve a long-segment circumferential wall thickening with homogenous enhancement, usually without stranding of the adjacent fat. In addition, mesenteric adenopathy and surrounding free fluid may be present.

**Figure 3.** Crohn’s disease. 11-year-old boy with acute abdominal pain and history of Crohn’s disease. Oblique axial MDCT enterography image (A) demonstrates signs of active inflammation in the terminal ileum (white arrow), including mucosal hyperenhancement, wall thickening, and adjacent inflammatory changes. The appendix is normal (yellow arrow). MR enterography in the same patient 2 years later (B) demonstrates wall thickening and fibrosis without adjacent inflammatory changes, consistent with sequela of multiple prior Crohn’s flares.

**Figure 4.** Mesenteric adenitis. Coronal MDCT with oral contrast shows a cluster of right lower quadrant mesenteric lymph nodes greater than 5 mm in shortest diameter without identifiable cause (circled), consistent with mesenteric adenitis. The appendix was normal (white arrow).
Neutropenic Colitis (Typhlitis)

Neutropenic colitis has a similar presentation of acute appendicitis, but occurs particularly in immunosuppressed patients with leukemia, post-transplantation status, or acquired immunodeficiency. Mucosal damage secondary to both infection and ischemia is typically confined to the cecum and ascending colon. A prompt diagnosis is necessary due to the high risk of perforation. MDCT findings includes a distended cecum with circumferential wall thickening, peri-colonic infiltration, and peri-colic fluid (Fig. 5). Pneumatosis can also be present. Treatment includes bowel rest and antibiotics. MDCT is used to follow the progression of therapy, as evidenced by the improvement in the thickening of cecal wall. The extent of cecal wall thickening into the ascending colon as well as the patient’s history helps to differentiate neutropenic colitis from cecal wall thickening associated with appendicitis.

Diverticulitis

Diverticulitis is a common cause of abdominal pain, particularly in patients over 40 years of age. Diverticula form in the weakest portion of the colonic wall where vasa recta, the nutrient arteries, penetrate and extend into the submucosal layer. While diverticulitis most commonly involves the descending and sigmoid colon, diverticula may also form along the ascending colon and present with right-sided abdominal pain. Diverticulitis is thought to be caused by microperforation of a diverticulum.

On MDCT, diverticulitis is associated with wall thickening of the colon with infiltration of the adjacent mesenteric fat (Fig. 6). The vasa recta is engorged due to inflammation. Complications of acute diverticulitis include colonic perforation and abscess formation. Long-standing diverticulitis can result in colovesical or colovaginal fistula formation. Treatment of acute diverticulitis includes bowel rest and antibiotics; complicated diverticulitis requires drain placement or partial colectomy. It can be difficult to exclude an underlying neoplasm in the setting of acute diverticulitis. However, signs concerning for malignancy include a short-segment of involved colon (< 10 cm), colonic mass with overhanging shoulders, and peri-colic lymphadenopathy. Colonoscopy is recommended as a follow-up examination once the patient’s symptoms subside to exclude an underlying neoplasm. CT colonoscopy can be performed; however, the discussion of CT colonoscopy is beyond the scope of this review article.
Meckel’s Diverticulitis

Meckel’s diverticulum is a congenital anomaly due to the persistence of the omphalomesenteric (vitelline) duct, which connects the yolk sac to the midgut lumen in the developing fetus. Meckel’s diverticula are located 60-100 cm from the ileocecal valve, typically in the right lower quadrant or lower central abdomen. Inflammation occurs due to mucosal ulceration from ectopic gastric mucosa or due to luminal obstruction by an enterolith. Meckel’s diverticulum may also act as a lead point for intussusception. Meckel’s diverticulum are identified on MDCT as a blind-ending tubular structure arising from the anti-mesenteric side of the distal ileum. Wall thickening, hyperenhancement, and adjacent mesenteric fat stranding suggest active inflammation (Fig. 7). A Meckel’s diverticulum can also be identified using radionuclide scanning with $^{99m}$Tc-pertechnetate; however, sensitivity and specificity are lower in adults patients when compared to children due to the decreased prevalence of ectopic gastric mucosa. Management is surgical resection.

Epiploic Appendagitis

Epiploic appendages are small fat protrusions arising from the serosal surface of the colon; these are not usually identifiable on cross sectional imaging. Torsion of an epiploic appendix causes vascular occlusion, ischemia, and acute onset abdominal pain. An inflammatory process within the abdomen can also extend to the epiploic appendages, causing secondary epiploic appendagitis. Since the number and size of epiploic appendages increase from the cecum to the sigmoid colon, epiploic appendagitis usually results in left-sided abdominal pain. However, epiploic appendagitis can occur in the ascending colon and even the cecum. On ultrasound, epiploic appendagitis is seen as a hyperechoic mass with a hypoechoic rim deep to the abdominal wall. The MDCT findings include a peri-colic fatty mass with surrounding infiltrative changes; a high-attenuation central dot may be seen, which represents a thrombosed vein (Fig. 8). Treatment is usually supportive with anti-inflammatory agents.

Figure 7. Meckel’s diverticulitis.
16-year-old girl with right lower quadrant abdominal pain and small amount of free fluid on pelvic ultrasound. Axial MDCT image with IV contrast (A) demonstrates a blind-ending tubular structure arising from the distal ileum with adjacent inflammatory changes (white arrow). Superiorly (B), the appendix (white arrow) was mildly dilated to 8 mm with wall thickening, but with minimal adjacent inflammatory changes. Surgical pathology demonstrated an inflamed Meckel’s diverticulum and a normal appendix (apparent wall thickening may have been due to reactive changes from the Meckel’s diverticulitis).

Figure 8. Epiploic appendagitis.
63-year-old man with a history of diverticulitis presents with right-sided abdominal pain that is worse with movement and deep breathing; no leukocytosis. Axial MDCT image demonstrates a focus of inflammatory changes just superior to the transverse colon with a high attenuation central dot (white arrow), consistent with epiploic appendagitis.
Omental Infarction

In contrast to epiploic appendagitis, omental infarction is most commonly a right-sided entity, perhaps due to longer length and mobility of the omentum in the right hemiabdomen compared to the left. Omental infarction is caused by torsion or vascular thrombosis secondary to postoperative omental adhesions, trauma, or increased intra-abdominal pressure (coughing, obesity, strenuous exercise). The most common presenting symptom is acute-onset abdominal pain. MDCT imaging findings vary from an ill-defined, heterogeneous fat-attenuation lesion to a well-defined heterogeneous fatty mass, classically located between the anterior abdominal wall and ascending or transverse colon (Fig. 9). Omental infarction may be differentiated from epiploic appendagitis by location (between the colon and anterior abdominal wall), larger size (often greater than 5 cm in diameter), absence of a peripheral rim, and absence of a central dot sign. Management is typically supportive; complications are rare.

Acute Genitourinary Diseases

Urolithiasis

Urolithiasis may present with right lower quadrant pain, particularly if an obstructing calculus is present in the right ureterovesicular junction. Ultrasound evaluation of the abdomen may demonstrate hydrourerter, which can be differentiated from bowel due to the lack of bowel signature (alternating hyperechoic and hypoechoic tissue layers) (Fig. 10). If the bladder is distended, the obstructing calculus may be visualized as an echogenic focus in the region of the ureterovesicular junction. Identification is improved by creation of the twinkle artifact on Doppler images, which is rapidly changing red and blue colors behind the calcification due to "phase jitter" within the machine.

CT images demonstrate a high attenuation calculus within the ureter, with or without proximal ureteral dilatation. Ureteral wall thickening and adjacent fat stranding may be present. Pelvic phleboliths may simulate distal ureteral calculi. If the ureter cannot be followed in its entirety and the calcification is indeterminate, the presence of a soft tissue rim ("rim sign" due to inflamed ureteral walls) and the absence of a soft tissue tail ("tail sign" due to thrombosed vein leading into the calcification) may help characterize urolithiasis. Treatment for ureteral calculi less than 4 mm in diameter is supportive.

Pyelonephritis

Pyelonephritis is most commonly associated with an ascending genitourinary tract infection and is a clinical diagnosis; often times, the sonographic and MDCT findings are normal. However, imaging is useful in excluding complications, such as abscess formation, emphysematous pyelonephritis (typically in diabetics and immunocompromised patients), or xanthogranulomatous pyelonephritis. Findings of pyelonephritis on CT include nephromegaly due to edema, a striated or delayed nephrogram, perinephric fat stranding, and wall-thickening and enhancement of the renal collecting system (Fig. 11). Delayed appearance of the calices may also be seen; however, since pyelonephritis is often bilateral, comparison between the two kidneys may not be helpful.
Ultrasound may show nephromegaly and loss of renal sinus fat due to inflammation, as well as loss of the corticomedullary junction. The kidneys may be abnormally hyperechoic or hypoechoic. In the absence of complications, treatment includes antibiotics and supportive measures.

**Gynecologic Diseases**

Gynecologic emergencies, especially those affecting the right adnexa, are important in the differential diagnosis of acute appendicitis in young women. Screening the right ovary is routinely performed along with ultrasound evaluation of the appendix in pediatric patients. Commonly encountered pathologies include ovarian torsion, hemorrhagic ovarian cyst, pelvic inflammatory disease, ectopic pregnancy, and Mittelschmerz. Ultrasound, preferably transvaginal, is the preferred initial imaging evaluation in these cases.

**Ovarian Torsion**

Ovarian torsion results from twisting of the ovary on its supporting ligaments. Patients are usually in the reproductive age group and present with acute onset lower abdominal pain on the side of the ovary involved. Torsion usually occurs in the presence of underlying pathology, such as enlarged ovaries from...
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Cysts, tumors, enlarged corpus luteum, or ovulation induction for infertility. Ultrasound is performed as the first line of imaging, demonstrating increased size (>4 cm in greatest diameter) and volume of the involved ovary, heterogeneous appearance from edema and hemorrhage, and typically an associated cyst or mass (Fig. 12). Multiple small follicles can be seen in the periphery of the enlarged ovary due to displacement from stromal edema, described as “string of pearls” sign.\(^\text{29}\) On Doppler, venous flow is often reduced or absent, but this is less sensitive than gray-scale findings. The arterial blood flow may be dampened or absent as well, but this finding is variable due to dual blood supply (ovarian artery and uterine branch artery). Comparison with the normal unaffected ovary is often helpful. Treatment is surgical detorsion and removal of necrotic tissue.

**Hemorrhagic Ovarian Cyst**

Hemorrhage into an ovarian cyst can cause abrupt lower abdominal or pelvic pain. Hemorrhagic cysts have a thin wall with posterior through transmission. The internal architecture depends on the stage of evolution of the hemorrhage, from anechoic fluid in the acute stage to echogenic clot in later stages, giving rise to varied sonographic appearances.\(^\text{30}\) The most common appearance is a finely septated fishnet pattern resulting from fibrin bands (Fig. 13A). Additional findings include a fluid-debris level, a nodule from retracting clot, or a completely echogenic lesion. These typically do not show internal vascularity. Echogenic fluid can be seen in the cul-de-sac in cases of ruptured cyst (Fig. 13B). In indeterminate cases, MRI may be performed to show the blood products, or a follow-up sonogram can show change in the echo pattern or resolution of the cyst (Fig. 13C). Correlation with menstrual history is helpful as these typically occur in the luteal phase. Treatment is typically supportive.

**Pelvic Inflammatory Disease**

Acute pelvic inflammatory disease can present with fever and lower abdominal pain, similar to that of acute appendicitis. *Neisseria gonorrhoeae* and *Chlamydia trachomatis* are the most commonly implicated organisms. Patients may have additional symptoms relating to the urogenital tract, including dysuria, dyspareunia, and vaginal discharge. On transvaginal ultrasound, enlarged and heterogeneous appearing ovaries, thickened adnexal structures, dilated fallopian tubes containing simple fluid or echogenic contents, and pelvic fluid collections can be seen (Fig. 14). CT findings include enlarged ovaries with abnormal enhancement, dilated and fluid filled fallopian tubes with enhancing wall from pyosalpinx, stranding of the pelvic fat, enhancement of the adjacent peritoneum, and pelvic abscesses in advanced cases (Fig 14C).\(^\text{31}\) Similar findings can be seen involving the endometrium and cervix in endometritis and cervicitis. Treatment is supportive, including antibiotic therapy.
Ectopic Pregnancy

Ectopic pregnancy needs to be excluded in all women of reproductive age who present with abdominal pain. As with other gynecologic emergencies, transvaginal ultrasound along with serum beta-hCG level plays crucial role in diagnosis. Non-visualization of an intrauterine gestational sac on transvaginal ultrasound with a beta-hCG level greater than 2000 mIU/ml should raise the suspicion for ectopic pregnancy. Ninety-five percent of ectopic pregnancies are tubal, and visualization of a complex mass separate from the ovary helps in differentiating it from a complex ovarian cyst ([Fig. 15](#)). Presence of yolk sac or a live embryo with cardiac activity makes the diagnosis.$^{32}$ Other findings include the “tubal ring” sign, referring to a hyperechoic ring around the adnexal gestational sac. On Doppler, peripheral vascularity with high velocity and low impedance can be seen around the adnexal mass, separate from the ovary, called the “ring of fire” sign.$^{33}$ Echogenic fluid from hemoperitoneum can be seen in the pelvis and abdomen in cases of rupture. If diagnosed early, treatment is medical including methotrexate to terminate the non-viable pregnancy. Surgical treatment may be pursued in the presence of hemodynamic instability, ongoing rupture, or contraindication to methotrexate.

**Mittelschmerz**

This is pain associated with rupture of the dominant follicle during ovulation, occurring in the mid menstrual cycle, usually felt in the lower abdomen. The laterality of pain varies corresponding to the side of ovulation. Sometimes, the pain can be severe, associated with nausea, and mimic appendicitis if occurring on the right side. Correlation with menstrual cycle, spotting, and history of prior such episodes can help.

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**Figure 14. Tubo-ovarian abscess.**

26-year-old woman with acute right lower quadrant pain. Transvaginal ultrasound image with Doppler ([A](#)) shows an enlarged, complex appearing, and hyperemic right ovary (arrows) from tubo-ovarian abscess. Transvaginal ultrasound with Doppler ([B](#)) reveals thickened and hyperemic left adnexal structures (arrow) with adjacent fluid collection. Axial post-contrast CT image of the pelvis ([C](#)) shows a heterogeneously enhancing right ovary (long arrow) and thickened adherent left adnexal structures with pyosalpinx (short arrow). The patient improved on antibiotics.
Conclusion

A variety of acute gastrointestinal genitourinary, and gynecological pathologic processes are associated with clinical symptoms similar to that of appendicitis. Imaging with ultrasound, CT, and MRI is useful for identifying appendicitis and associated complications, as well as identifying alternative diagnoses for the patient’s symptoms. Familiarization with various processes causing right lower quadrant pain, such as those covered in this paper, will aid in providing timely and appropriate care to the patient.

References