

CT Manifestations of Infarcted Epiploic Appendages of the Colon

G. M. Torres, P. L. Abbitt, M. Weeks

Department of Radiology, P.O. Box 100374, JHMHC, University of Florida College of Medicine, Gainesville, FL 32610-0374, USA

Received: 8 June 1993/Accepted: 14 July 1993

Abstract. Two patients presenting with acute onset of left lower abdominal pain due to infarcted epiploic appendages are the subject of this report. Computed tomography (CT) in both cases showed localized pericolic inflammatory changes corresponding to the location of infarcted epiploic appendages on the serosal aspect of the descending colon or sigmoid. The clinical and radiological findings of this entity are briefly described.

Key words: Abdomen, CT—Colon, inflammation—Appendix epiploica, infarction.

Appendices epiploicae are outpouchings of peritoneum containing adipose tissue protruding from the serosal surface of the colon [1]. They vary in size according to the individual's state of nutrition.

Pathologic processes affecting appendices epiploicae are infrequent and seldom considered in the preoperative differential diagnosis of a patient with abdominal pain [2, 3]. A common pathology, affecting about 40% of the patients with disease of the appendix epiploica, is spontaneous torsion with subsequent development of infarction [4]. There have been few reports in the radiologic literature as most cases are diagnosed during surgery.

Case Reports

Case 1

A 24-year-old man presented to the emergency room with recent onset of left lower quadrant pain. CT scan of the abdomen (Fig. 1) showed a low density lesion with gas bubbles within its center and surrounding soft tissue inflammation. This lesion was localized anterolateral to the descending colon in the left lower quadrant. Percutaneous CT-guided

drainage of the lesion was attempted and no fluid could be aspirated. The patient was brought to the OR for an emergent laparotomy and was found to have three areas of infarcted appendices epiploica with necrotic fat in the center.

Case 2

A 65-year-old female developed severe left lower quadrant pain and fever while playing bridge. The patient was admitted to the hospital, and CT scan showed an inflammatory mass in the left groin (Fig. 2). At surgery this inflammatory process was found to be secondary to an infarcted appendix epiploica of the sigmoid which had become incarcerated between the facial planes of the groin.

Discussion

Appendices epiploicae are round, lobulated, or elongated subserosal fat pads that are located along the anterior or posterolateral walls of the colon, most commonly from the transverse colon to the sigmoid [4, 5]. The function of the appendices epiploica is not well known, but it is believed that they may serve as a protective cushion during peristalsis or as a depot of blood when the colon and its intramural vessels are contracted [4]. They also can provide defense against local inflammation, and a place for fat storage for energy consumption during prolonged periods of starvation [2, 5].

Disorders of the appendix epiploica are usually clinically silent or may present in a nonspecific picture as abdominal pain. Usually, the diagnosis is not suspected preoperatively. The appendices epiploicae may undergo spontaneous torsion with resultant thrombosis and infarction. The twisted pedicle disrupts the blood supply with secondary development of infarction and aseptic fat necrosis of the appendage [4]. Some mechanisms have been described to explain the propensity to torsion. Patterson proposed a hemodynamic mechanism wherein the longer veins within the appendix twist around the shorter arteries [6]. Mobile appendages are prone to

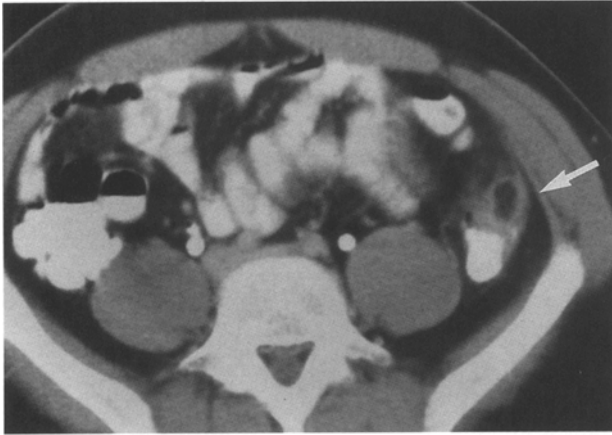


Fig. 1. CT of the abdomen shows low attenuation mass (arrow) in the anterolateral surface of the descending colon with stranding of the mesentery around it. Within the center of the lesion, gas bubbles are seen due to infarcted appendices epiploicae.

twisting with change in posture, heavy exercise [4], or secondary to normal peristalsis. Chronic torsion can lead to chronic inflammation or fat necrosis, saponification, and calcification. This calcification can separate from the colon and form a loose peritoneal foreign body [3]. Other common pathologic processes are inflammation, intussusception, and obstruction.

The clinical presentation and radiologic findings of these conditions are nonspecific. Many times problems with appendices epiploicae are confused with sigmoid diverticulitis and appendicitis, as these are the most commonly involved areas. In our first patient, CT finding was of a low attenuation lesion anterolateral to the distal descending colon (Fig. 1) with gas bubbles within it. At surgery, there was fat necrosis within the center of the appendix. In the second case, the inflammatory changes were secondary to an incarcerated appendix epiploica between the facial planes of the groin. A CT finding that may help to make a correct diagnosis is the visualization of a tender mass of fat or soft-tissue attenuation on the anterior or posterolateral aspect of the serosal surface of the colon.

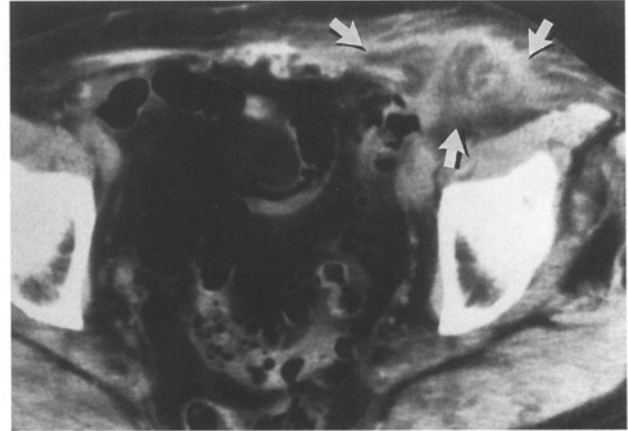


Fig. 2. CT in a patient with left lower quadrant pain shows ill-defined inflammatory mass in the region of the left groin (arrows). This was caused by incarcerated and infarcted appendices epiploicae from the serosal surface of the sigmoid colon.

In summary, although pathologic processes of the appendices epiploicae present with nonspecific clinical and radiologic findings, these disorders should be included in the differential diagnosis of patients with abdominal pain and CT findings of localized painful pericolic fatty or inflammatory masses.

References

1. Netter FH. Lower digestive system, Part II, Vol. 3. In: *The Ciba collection of medical illustrations*, 1989.
2. Lynn TE, Dockerty MB, Waugh JM. A clinicopathologic study of the epiploic appendages. *Surg Gynecol Obstet* 1956;103:423–433
3. Farmllett EJ, Fishman K, Jones B, et al. Torsion of lipoma of appendix epiploica: CT evaluation. *JCAT* 1985;9:366–368
4. Ghahremani GG, White EM, Hoff FL, et al. Appendices epiploicae of the colon: radiologic and pathologic features. *RadioGraphics* 1992;12:59–77
5. Carmichael DH, Organ CH. Epiploic disorders: conditions of the epiploic appendages. *Arch Surg* 1985;120:1167–1172
6. Patterson DC. Appendices epiploicae and their surgical significance with report of three cases. *N Engl J Med* 1933;209:1255–1259