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CLINICAL VIGNETTE

Epiploic Appendagitis As A Cause of Acute Abdominal Pain- A Report of Two Cases

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Case Report

Our first patient is a 64-year-old white female who came to the office complaining of acute abdominal pain for 4 days. Her past medical history was remarkable for high blood pressure and high cholesterol, impaired glucose tolerance, osteoarthritis, asymptomatic gallstones, fatty liver and morbid obesity. She had had a previous Caesarian section and tubal ligation. Her medications included atenolol, nonprescription fish oil capsules and vitamins. She stated that the pain was located in the right lower abdomen, and she was worried that she might have appendicitis. The pain diminished if she sat completely still and was worse with movement, coughing, laughing, deep breathing or bending over. She denied fevers, chills, sweats, nausea, vomiting or change in her bowel pattern; she had already eaten breakfast. She was observed to walk slowly while slightly leaning forward and guarding her abdomen as she entered into the examination room. Vital signs recorded a blood pressure of 122/70 mmHg, pulse of 64 beats/min, temperature of 97.8°F, and respirations of 16 breaths/min. She was obese, weighing 214 pounds. Physical examination was unremarkable except for abdominal findings. Her abdomen was obese with normal bowel sounds. There was moderately severe right lower quadrant tenderness with rebound and guarding. She was referred to the emergency department for further evaluation of an acute abdominal process with the concern for appendicitis or diverticulitis. Laboratory testing revealed a hemoglobin of 14.1 g/dL; white blood cell count of 9,430/microliter; a normal white cell differential; normal liver and renal function tests; normal electrolytes, amylase and lipase tests; and a negative urinalysis. CT scan of the abdomen and pelvis with contrast revealed her known gallstones and focal stranding (of the fat) just anterior to the ascending colon surrounding a central fat core; there was no bowel thickening of the subjacent colon. The radiologic diagnosis was of probable epiploic appendagitis, and she was discharged from the emergency department with a prescription of acetaminophen with codeine for pain control. She came for office follow-up 2 days later. She stated that she was feeling much better and that her pain was almost gone. She had even gone to work the previous day. Her abdominal examination was now normal.

Our second case is a 50-year-old African American female who arrived at the office complaining of acute abdominal pain for 5 days. Her past medical history was remarkable for obesity, occasional ankle edema, and fatty liver. Prior surgeries included 3 separate myomectomies followed by hysterectomy and bilateral oophorectomy. Her only medicines were calcium and vitamin D. Screening colonoscopy a few months prior to this event had shown internal hemorrhoids and diverticulosis. Her mother had a history of diverticulitis. She also suffers from chronic constipation, and she had eaten Mexican food and beans the evening before she developed symptoms. She took a laxative and moved her bowels twice but did not get relief. She denied fevers, chills, sweating, nausea, vomiting and urinary symptoms. She noted increased pain with walking, coughing and movement. She was observed to lean forward and guard her abdomen as she walked toward, and then stepped onto, the scale for routine weighing by the medical assistant. Vital signs showed a blood pressure of 118/80 mmHg, pulse of 76 beats/minute, temperature of 97.6°F, and respirations of 18 breaths/minute. She weighed 186 pounds. Physical examination was unremarkable except for abdominal findings. There was mildly to moderately severe left lower quadrant tenderness with minimal rebound and guarding. She was felt to have an acute abdominal process with the concern for diverticulitis. She refused emergency department evaluation. Prescriptions were written for ciprofloxacin 500 mg twice daily and metronidazole 500 mg 3 times a day and an out-patient abdominal and pelvic CT scan was ordered. Laboratory testing showed a hemoglobin of 13.2 g/dL; a white blood cell count of 6,470/microliter; normal liver and renal function tests; normal electrolytes; and a negative urinalysis. That evening she underwent the CT scan; this showed diverticulosis of the sigmoid colon and an area of

inflammation surrounding a fatty appendage. There were no diverticula at the level of this inflammation. The patient was felt to have epiploic appendagitis and was notified of these findings by phone. Antibiotics were discontinued and ibuprofen was recommended for pain. Two days later the patient reported she felt much better. She was reexamined in the office 8 days after her initial presentation and she stated that she felt completely well. Her abdominal examination was back to normal.

Epiploic appendagitis is an uncommon cause of abdominal pain, but it is important to make this diagnosis promptly as the management is often conservative and the patient can be spared a surgical procedure. The presentation of the patient usually suggests acute appendicitis or diverticulitis¹.

Fifty to 100 epiploic appendages (of uncertain function) are found scattered along the serosal surface of the colon parallel to the anterior and posterior taenia coli. They are peritoneal pouches 0.5 to 5 cm in length and become larger and more numerous in the sigmoid region. An epiploic appendage is a fatty stalk-like structure containing 1 or 2 small end arteries and 1 vein. Obstruction or occlusion of these vascular structures due to torsion or thrombosis can result in ischemia, inflammation, infarction, necrosis presenting as acute, well-localized abdominal pain. There may be possible association with obesity, heavy or vigorous exercise, and hernia. It has been reported in both sexes in all age groups¹⁻⁸.

The patient with epiploic appendagitis presents with relatively acute right or left lower quadrant sharp abdominal pain, but usually there is no associated nausea, vomiting, anorexia, fever, change in bowel function, leukocytosis or other signs of a serious systemic illness. The patient with focal peritoneal signs can often localize and point directly to the involved area. The sigmoid colon is affected more often than the caecum^{1,5-7,9}.

In previous years, epiploic appendagitis was diagnosed at the time of laparotomy. Now, specific findings on CT or ultrasound examination can usually make the correct diagnosis. (Normal epiploic appendages are not seen on CT.) A fat-containing density with stranding of the surrounding fat adjacent to the serosal surface of the colon is noted with CT. The peritoneal surface may be thickened while the colonic wall is not thickened. Ultrasound can detect an oval, noncompressible hyperechoic mass with no central blood flow anteromedial to the colon. "Epiploic appendagitis has been diagnosed in 2-7% of abdominal CT examinations done to exclude diverticular disease and 1% of those examinations to rule out appendicitis." It needs to be differentiated from "omental infarction, mesenteric panniculitis, fat-containing tumor" on CT scan. ^{1,2,6-8,10-12}

Conclusion

The presentation of a patient with epiploic appendagitis usually mimics that of an acute abdominal process, especially appendicitis or diverticulitis. However, there are few alarming associated systemic signs. Diagnosis is facilitated by a prompt abdominal CT scan and a high index of suspicion. Because the process is mainly self-limiting, the treatment consists of reassurance, analgesia, anti-inflammatories and close follow-up. Improvement usually occurs within 10 days. The goal is to try to avoid unnecessary surgery or the radiation associated with multiple serial CT scans^{1-3,5-7}.

Complications can occur. Patients should be advised to return for fever, persistent pain, or additional gastrointestinal symptoms. Laparoscopic removal of the involved appendage is occasionally required, and there may be an increased risk of recurrence without laparoscopic removal. The infarcted appendage is usually resorbed. However, it can detach from its origin, calcify and become a "loose body" in the abdominal cavity. Rarely, adhesions, abscess formation, peritonitis, and bowel obstruction have been reported⁵⁻⁷.

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