Right Iliac Fossa Pain

A 49-year-old male presented with sudden onset right iliac fossa (RIF) pain which was aggravated by walking or positioning. There was no associated fever. Rebound tenderness was elicited at the RIF. Full blood count was normal with no evidence of leucocytosis. Being a medical personnel, he requested an ultrasound of the abdomen to exclude acute appedicitis. As the ultrasound of the abdomen was negative, computed tomography (CT) of the abdomen was performed.

What is the cause of the patient's RIF pain?

A. Acute diverticulitis
B. Omental infarct
C. Epiploic appendagitis
D. Acute appendicitis
E. Mesenteric panniculitis

Findings

The axial CT scan image (Fig. 1) showed a well defined ovoid fat density structure with thin hyperdense rim and surrounding fat streakiness (arrow), representing an epiploic appendagitis.

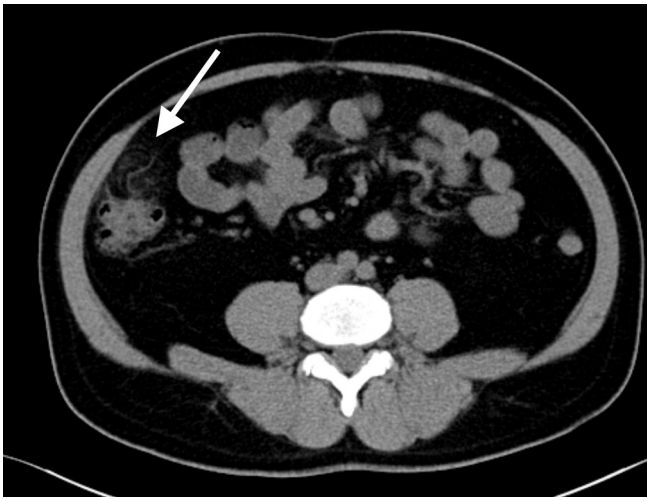

Fig. 1. An axial CT scan image of the abdomen.

Discussion

Epiploic appendagitis refers to an inflammation of the epiploic appendage which can be divided into primary and secondary.[1] Primary epiploic appendagitis is an ischaemic infarction of the appendage due to torsion or thrombosis of the epiploic central draining vein.[1] It has been associated with obesity, hernia and unaccustomed exercise.[2] Meanwhile, secondary epiploic appendagitis is an inflammation caused by other disease processes, such as diverticulitis, appendicitis, cholecystitis or pancreatitis.[1]

Primary epiploic appendagitis is a predominantly self-limiting disease which only requires symptomatic relief.[1,2] Rarely, it may be complicated by adhesion, bowel obstruction, peritonitis and abscess formation.[3]

Prior to the widespread use of CT scan, the majority of epiploic appendagitis cases were diagnosed intraoperatively.[2] Acute appendagitis most commonly involves the sigmoid colon, followed by descending colon and right hemicolon.[2] It is most commonly described on CT as an oval fat density lesion which abuts the anterior colonic wall and is surrounded by inflammatory changes.[2] Despite its self-limiting nature, with resolution of symptoms within 2 weeks, the CT findings usually last longer. However, CT features usually resolve within 6 months.[2]

The given choices for the differential diagnoses are acute diverticulitis, omental infarct, acute appendicitis and mesenteric panniculitis; however, this CT image has a typical appearance of an acute epiploic appendagitis.

In contrast, omental infarcts are typically represented as a solitary non-enhancing omental mass of heterogenous attenuation in the right lower quadrant.[2] The omentum can be identified by tracing the mass back to the epiploic vessels which are branches of gastroepiploic vessels. The omental infarcts, however, lack the hyperattenuating ring and central dot[1,2] which are seen in this case. The omental infarcts also tend to be larger and separated from the colon,[2] which are contrary to this case. It is important to note that the CT findings of the epiploic appendagitis and omental infarcts may overlap, thus making it difficult to differentiate between these two entities. However, both conditions are self-limiting and tend to resolve spontaneously.

Answer: C

Meanwhile, acute diverticulitis is an inflammation of the diverticula, which are the mucosal outpouchings through the weakened colonic wall between the mesenteric and antimesenteric taenia. It frequently affects patients over 50 years old.[1] Almost 95% of cases occur on the left side of the abdomen. However, 5% of the diverticula are located on the right side, which has a predilection for those of Asian descent.[1] Acute diverticulitis is commonly represented by paracolic fat stranding, which is apparent in this case. Typically, a blurry or ill-defined diverticulum would be present where the fat stranding is most pronounced[1] which is not demonstrated on this CT image. There is often associated segmental colonic wall thickening[1,4] which is also absent from the image.

Acute appendicitis may occur in all ages, but has the greatest incidence in the second decade of life. An abnormal appendix appears dilated on CT with the lumen measuring more than 6 mm in diameter. It has a thickened wall which may enhance homogenously on intravenous contrast media administration.[4] Acute appendicitis also presents on CT as a thick fluid-filled appendix with intramural gas, caecal apical thickening and adjacent fat stranding.[1,4] However, this CT image showed a fat density lesion rather than a fluid-filled structure. Furthermore, a normal appendix is identified for the case.

Mesenteric panniculitis, by contrast, is a condition where the fatty tissue of the bowel mesentery undergoes non-specific chronic inflammation and fibrosis.[1] It mainly involves the root of the small bowel mesentery and does not abut the colonic wall[1,2] as opposed to this particular image.

In conclusion, CT appearances are valuable in distinguishing these differential diagnoses, thus helping in decision-making and further management of patients.

REFERENCES

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