

Out of the Box: Rare Mimicker of Acute Abdomen-Acute Epiploic Appendagitis

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ABSTRACT

Epiploic appendages are peritoneal protrusions of sub-serosal adipose tissue that usually arise from the colon. Inflammation or ischaemic process of epiploic appendages is termed as epiploic appendagitis, a rare subtype of intra-peritoneal focal fat infarction. It's a great mimicker of acute abdomen and can simulate acute appendicitis or acute diverticulitis. It's a self limiting condition which can be treated conservatively. The present case was clinically diagnosed as acute diverticulitis. Cross-sectional imaging helped in accurate diagnosis and better management of the patient.

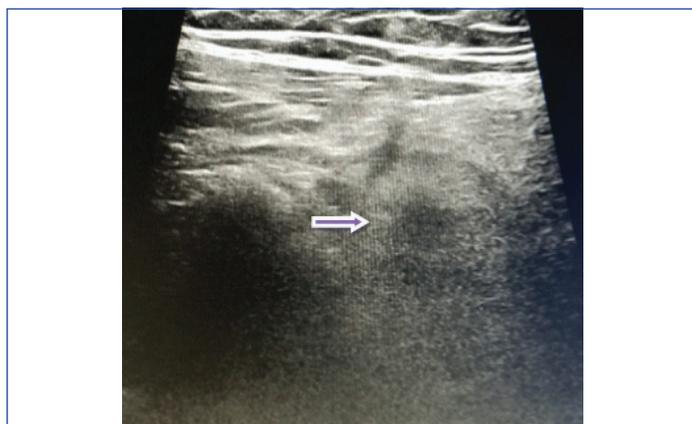
Keywords: Appendicitis, Diverticulitis, Infarction, Omental

CASE REPORT

A 48-year-old male presented to Department of General Surgery with acute localised pain abdomen in the left lower quadrant, since 15 days. There was no history of vomiting, loose stools, fever or radiation of pain.

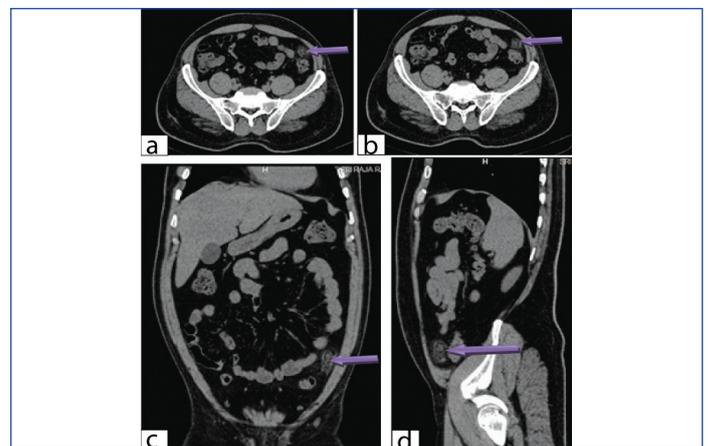
On examination, tenderness was noted in the left iliac fossa. Rest of the abdomen was soft with normal bowel sound. General physical examination and other systemic examination were within normal limits. For further evaluation ultrasound and Contrast Enhanced Computed Tomography (CECT) of abdomen and pelvis was performed.

Ultrasound of abdomen showed a well defined, ovoid, non-compressible hyperechoic mass with surrounding hypoechoic halo, hypo-vascular in the left iliac fossa. Probe tenderness was present. Rest of the adjacent bowel loops were normal. No free fluid or lymph nodes were seen. Rest of abdomen was normal [Table/Fig-1].

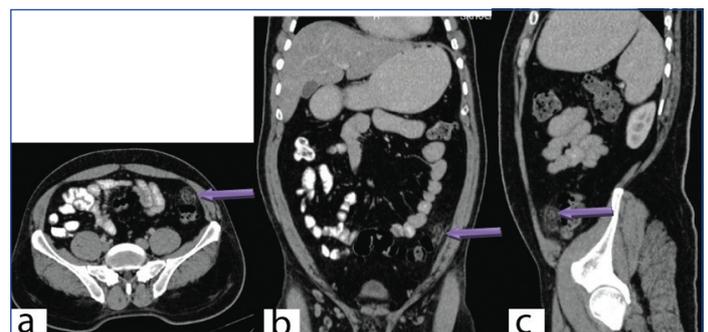


[Table/Fig-1]: Ultrasound of abdomen (Transverse view) – Well defined, ovoid, non-compressible hyperechoic mass with surrounding hypoechoic halo in the left iliac fossa (arrow).

Plain CT revealed a well defined, ovoid fat density lesion, adjacent to the sigmoid colon with a thin peripheral hyper-dense surrounding rim and adjacent localised peritoneal fat stranding. No bowel wall thickening. On post contrast images there was focal area of enhancement in the central portion of the mass. Differentials included mainly types of intraperitoneal fat necrosis like acute epiploic appendagitis, omental infarction. Other differential diagnosis for left lower quadrant abdominal pain includes acute diverticulitis or acute colitis of sigmoid or descending colon. Diagnosis of acute epiploic appendagitis was made based on the imaging findings [Tables/Fig-2(a-d),3(a-c)].



[Table/Fig-2 (a-d)]: Non contrast enhanced Computed Tomography (axials, coronal and sagittal planes) shows well defined, ovoid fat density lesion, adjacent to the sigmoid colon with a thin peripheral hyper-dense surrounding rim and adjacent localised peritoneal fat stranding (arrows). (figures from left to right)



[Table/Fig-3 (a-c)]: Contrast enhanced Computed Tomography (axials, coronal and sagittal planes) shows well defined, ovoid fat density lesion, adjacent to the sigmoid colon with a thin peripheral hyper-dense surrounding rim and adjacent localised peritoneal fat stranding and there was focal area of enhancement in the central portion of the mass (arrows) representing the central dot sign. (figures from left to right)

The patient was treated with Non-Steroidal Anti-Inflammatory Drugs (NSAID) and was relieved of abdominal pain without any active surgical intervention.

DISCUSSION

Acute inflammation of the peritoneal protrusions of sub-serosal adipose tissue along the colon is termed as acute epiploic appendagitis. Nadida D et al., reported four cases who underwent laparoscopic removal of inflamed epiploic appendagitis out of which three of them were misdiagnosed to have acute appendicitis [1].

Ozkurt H et al., reported nine cases out of which one patient was diagnosed to have inguinal swelling and a pre-operative diagnosis of an incarcerated inguinal hernia. On surgical exploration the patient had an inflamed and oedematous appendix epiploic of the sigmoid colon in the hernia sac [2]. Gandhi J et al., presented a case of epiploic appendagitis where the clinical diagnosis of ovarian torsion was made [3]. Jeanmonod P et al., presented a case report of torquated giant appendix epiploic that was mimicking intraperitoneal liposarcoma [4]. The term epiploic appendagitis was first described by Lynn et al., in mid-1950's [5].

Acute epiploic appendagitis can be divided as primary (spontaneous) and secondary. Acute epiploic appendagitis most commonly occurs in obese female individuals from 2nd-5th decade and presents with acute abdominal pain [6,7]. The etio-pathogenesis is secondary to ischaemia and necrosis of appendage epiploic due to spontaneous thrombosis of venous flow or torsion of a large and pedunculated appendage epiploic. Due to their mobility and low blood supply, they have an increased potential of torsion or ischaemia. Risk factors include obesity, heavy exercise, ascites or recent surgery or delivery. The reported incidence is 1.7-7.1% and occurs more commonly on left side [8-11]

Imaging is the key in diagnosis of this condition, in particular Multi-Detector Computed Tomography (MDCT) as fat infarction is better visualised.

Ultrasound demonstrates a rounded, non-compressible, hyper-echoic mass without internal vascularity, surrounded by a subtle hypoechoic rim in the anterolateral aspect of colon with maximum diameter of 2-4 cm. It is usually not associated with bowel wall thickening [12].

MDCT demonstrates ovoid fat density lesion in the anti-mesenteric border adjacent to the colon with thin high density rim, surrounding inflammatory fat stranding. The classical central hyperdense dot sign is noted representing the thrombosed vascular pedicle usually located in the anterior aspect of sigmoid or descending colon [8-10].

Chronically, an infarcted epiploic appendage may calcify and detach to form intra-peritoneal loose body (peritoneal mice). It's a self-limiting condition and responds to NSAID medication. Rarely require surgical intervention [13].

Main differential diagnoses include omental infarction which is close to ascending colon, usually on right side and measures >3 cm in

maximum transverse diameter. Other differentials include acute appendicitis, acute diverticulitis and mesenteric panniculitis, trauma and rarely omental neoplasms like liposarcoma [8-12,14].

CONCLUSION

Prompt and accurate imaging diagnosis of acute epiploic appendagitis can prevent unnecessary surgical interventions. MDCT is the investigation of choice for the early diagnosis. Acute epiploic appendagitis should be considered in the differential of acute lower quadrant abdominal pain. In the present case imaging had a crucial role in diagnosis and patients management avoiding unnecessary surgery.

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