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Case Report

Right lower quadrant pain: not always appendicitis but epiploic appendagitis of appendix ☆,☆☆,★,★★

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ABSTRACT

Epiploic appendagitis is a condition that mimics acute abdomen, causing inflammation of epiploic appendages. This paper aimed to present a case of "epiploic appendagitis of the appendix", which is a rare cause of right lower quadrant pain. A 45-year-old male patient with abdominal pain was referred to the radiology clinic for abdominal CT. The pain localized to the right lower quadrant and no signs of peritoneal irritation were present on physical examination. On images of abdominal CT the diameter of the appendix measured as 7 mm. The wall thickness was within normal limits and no mucosal enhancement noted. Appendiceal air was present in the lumen. An oval lesion of fat density with a hyperdense rim was seen adjacent to the anterior part of the appendix. It was causing striations and heterogeneous appearance in the surrounding mesenteric fat tissue with central areas of high attenuation. The findings noted down as "hyper-attenuating ring sign" and "central dot sign". These pathognomonic CT findings were consistent with epiploic appendagitis and the case reported as epiploic appendagitis of the appendix. After conservative non-surgical medical treatment symptoms of patient revealed. To prevent unnecessary surgery, it is important to exclude conditions requiring emergency surgical intervention with imaging. The most effective technique recommended for imaging is CT with IV opaque. Increasing awareness and knowledge of radiologists regarding epiploic appendagitis of the appendix will rule out the possibility of potential misdiagnosis in imaging and will avoid the resultant unnecessary surgery.

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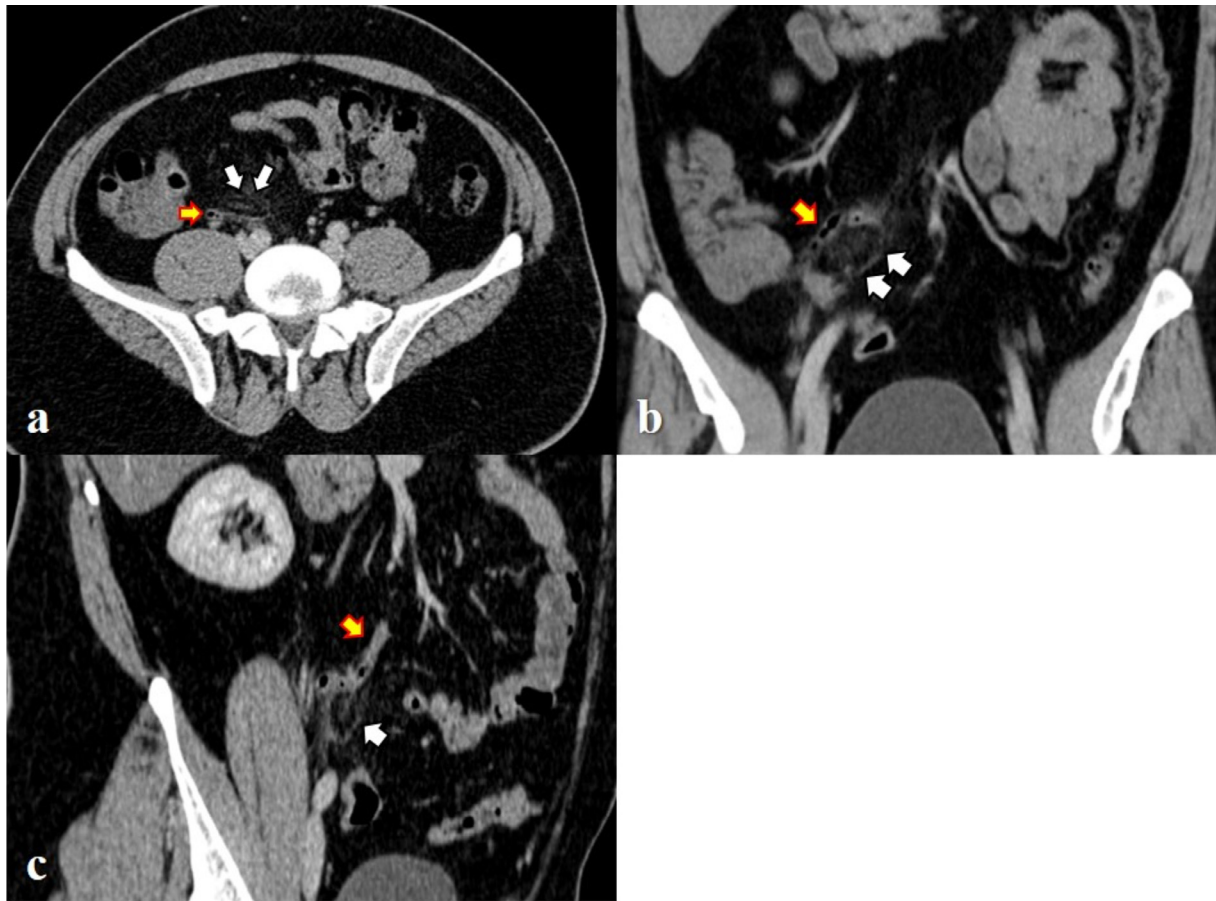


Fig. 1 – Axial (A), coronal (B) and coronal MPR reformat images (C) of enhanced abdomen CT demonstrates normal appendix (yellow arrows). A small fat containing ovoid structure with central areas of high attenuation, peripheral hyperdense rim and surrounding fat stranding is seen adjacent to appendix (white arrows). Findings are consistent with “epiploic appendagitis of the appendix” (Color version of figure is available online)

Introduction

Epiploic appendages are small outpouchings containing fat and vessels of the visceral peritoneum on the serous surface of the colon. They can occur in all segments of the colon but are more prominent in the transverse and sigmoid colon. They are usually rudimentary at the base of the appendix [1].

Epiploic appendagitis, which frequently occurs in males' transverse and sigmoid colon during their 4th to 5th decades of life, is a condition that mimics acute abdomen, causing inflammation of epiploic appendages due to ischemia or necrosis resulting from torsion or thrombosis [2]. However, epiploic appendagitis in appendix is not common.

This paper aimed to present a case of “epiploic appendagitis of the appendix”, which is not common cause of right lower quadrant pain.

Case report

A 45-year-old male patient presented to the internal medicine outpatient clinic with abdominal pain persisting for 5 days. His blood values was within normal. Since the pain localized

to the right lower quadrant on examination and no signs of peritoneal irritation were present on physical examination, he was referred to the radiology clinic for abdominal CT with IV opaque.

The diameter of the appendix measured as 7 mm at its most prominent point on images of abdominal CT with IV opaque. The wall thickness was within normal limits and no mucosal enhancement noted. Appendiceal air was present in the lumen.

An oval lesion of fat density with a hyperdense rim was seen adjacent to the anterior part of the appendix. It was causing striations and heterogeneous appearance in the surrounding mesenteric fat tissue with central areas of high attenuation. The findings noted down as “hyper-attenuating ring sign” and “central dot sign”. These pathognomonic CT findings were consistent with epiploic appendagitis. The case reported as epiploic appendagitis of the appendix (Fig. 1).

Inflammation was limited to this area only, and no signs of inflammation detected in any other quadrant. No wall thickening detected in any other intestinal segment. No intra-abdominal free air or free fluid detected. An appearance consistent with fatty liver was noted as non-urgent findings.

After conservative non-surgical medical treatment (non-steroidal anti-inflammatory drug and antibiotic) symptoms of patient revealed.

Discussion

Normal epiploic appendages cannot be visualized by imaging techniques unless they are inflamed. When inflamed, they often cause pain that mimics an acute abdomen. There are 2 types of epiploic appendagitis. Primary epiploic appendagitis occurs because of inflammation resulting from torsion or thrombosis of the central vein. While secondary epiploic appendagitis arises as a result of other abdominopelvic inflammatory processes such as pancreatitis, cholecystitis and diverticulitis [3].

It is difficult to differentiate epiploic appendagitis presenting with pain from causes of acute abdomen based on clinical and laboratory findings alone [4]. The differential diagnosis becomes more challenging when epiploic appendagitis, which is generally among the causes of left lower quadrant pain, presents with right lower quadrant pain, as in our case [5].

To prevent unnecessary surgery, postoperative morbidity and prolonged length of hospital stay, it is important to exclude conditions requiring emergency surgical intervention with imaging, especially appendicitis, which is the most common cause of right lower quadrant pain in the differential diagnosis, as in our case. The most effective technique recommended for imaging is abdominopelvic CT imaging with IV opaque [6].

Acute epiploic appendagitis is often a self-limiting condition that can be treated conservatively with medical therapy. Although antibiotics are not required for the treatment, they

are often added to the treatment due to the concern that epiploic appendagitis may be complicated. The patient's complaints often resolve within 2 weeks [7].

Conclusion

Increasing awareness and knowledge of radiologists regarding epiploic appendagitis of the appendix will rule out the possibility of potential misdiagnosis in imaging and will avoid the resultant unnecessary surgery.

REFERENCES

- [1] Aljilly S, Ahmed Z. Epiploic appendagitis of the vermiform appendix—An unusual mimic of acute appendicitis. *Radiol Case Rep* 2021;16(3):511–15.
- [2] Barberi C, Castelnovo E, Kurihara H. Localized acute abdominal pain: What about epiploic appendagitis? *Visual J Emergen Med* 2021:23.
- [3] Gaur S, Jawahar RP, Prasad R, Prabakaran M. Epiploic appendagitis - a rare cause of acute lower abdominal pain. *Radiol Case Rep* 2021;16(5):1144–7.
- [4] Charifi Y, Lamrani Y, Chbani L, Maaroufi M, Alami B. Acute abdomen in adult revealing unusual complicated epiploic appendagitis: a case report. *Int J Surg Case Rep* 2020;75:112–16.
- [5] Sharma P, Hegde R, Kulkarni A, Soin P, Kochar P, Rotem E. Imaging right lower quadrant pain: not always appendicitis. *Clin Imaging* 2020;63:65–82.
- [6] Kapral NM, Pesch AJ, Khot R. Abdominal emergencies. *Semin Roentgenol* 2020;55(4):336–63.
- [7] Schnedl WJ, Krause R, Tafait E, Tillich M, Lipp RW, Wallner-Liebmann SJ. Insights into epiploic appendagitis. *Nat Rev Gastroenterol Hepatol* 2011;8(1):45–9.