CASE REPORT

Caecal epiploic appendagitis: a rare diagnosis in a young patient with red herring right iliac fossa pain

V. Koculen[1], M. Fleming[2], E. Rajasegaram[2]
[1]Post Graduate Institute of Medicine, University of Colombo, Sri Lanka
[2]District General Hospital, Negombo, Sri Lanka

Keywords: Epiploic appendangitis; red herring sign; appendisectomy

Introduction

Epiploic appendagitis is an inflammation of the appendices epiploicae which are fat-filled pouches of peritoneum protruding from the colonic serosa. Appendices epiploicae are found ubiquitously in the caecum and colon except for the rectum. They were first described by Vesalius in 1543 [1], but only gained popularity in 1853 when Virchow proposed their detachment as a source of intraperitoneal loose bodies [2]. They typically emerge along the taenia (taenia Libera and omentalis), in two rows in the caecum, ascending colon, descending colon and the sigmoid colon. But, in the transverse colon, they align in a single row as the taenia omentalis provides an attachment for the greater omentum. Due to their distribution over the entire colon, inflammation of the appendages may mimic various acute abdominal conditions [3]. Here we describe the first reported case of epiploic appendagitis mimicking as acute appendicitis in Sri Lanka.

Case presentation

A 25-year-old obese young male presented to the surgical casualty with acute onset non-migrating right-sided lower abdominal pain of two days duration. He had one episode of vomiting. The painful episode was not associated with fever and his bowel opening and urine output were normal. Clinical examination revealed tenderness of the right iliac fossa (RIF) with rebound tenderness. Laboratory investigations revealed mild neutrophil leukocytosis (White cell count 11,000/uL) in the absence of an elevated C-reactive protein. Urine analysis was normal. An ultrasound scan of the abdomen revealed inflammatory changes in the RIF region and the presence of a non-compressible structure. Considering the clinical background and the ultrasound scan finding, a working diagnosis of acute appendicitis was made, and the patient underwent open surgical exploration via Gridiron incision. Intraoperatively, however, a gangrenous pedunculated epiploic appendage of 3.0x1.5x1.0cm size was noted arising from the caecum with evidence of torsion of the stalk. The appendix was normal and was seen in the vicinity of the gangrenous appendage (Figure 1). Appendicectomy and excision of the appendage were performed. Both specimens were sent for histological evaluation.

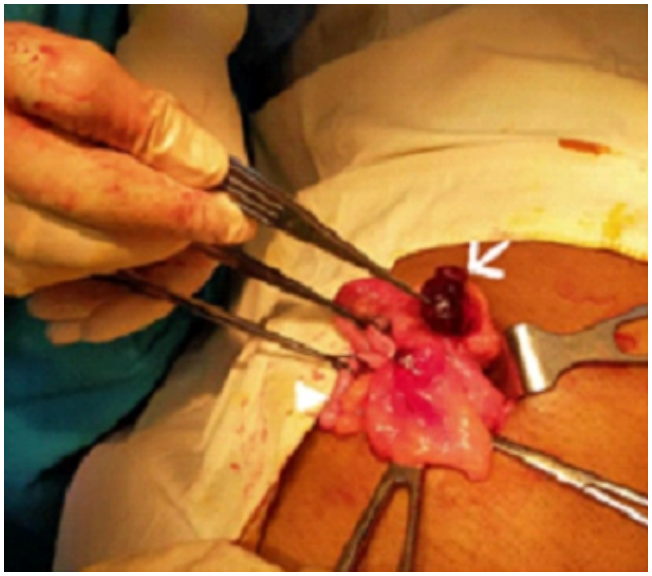

Figure 1. Caecal epiploic appendagitis secondary to torsion (Arrow) with normal looking appendix(Arrow head)

The patient had an unremarkable recovery and was discharged the following day with oral analgesics. The patient did not have any wound-related complications in the early postoperative period. The histopathology report revealed mesenteric fatty tissue infiltrated with sheets of neutrophils along with fat necrosis, haemorrhage and infarction consistent with acute epiploic appendagitis and the appendix was not inflamed.

Discussion

Epiploic appendagitis is a rare inflammatory condition of the appendices epiploicae. They are either primary or secondary. Primary epiploic appendagitis results due to ischaemic insult to the appendage following torsion compromising its arterial supply or after venous thrombosis [3,4]. Meanwhile, secondary epiploic appendagitis occurs as a result of inflammation in the vicinity.

Correspondence: V. Koculen
E-mail: koculen@yahoo.com
https://orcid.org/0000-0003-3491-3660
Received: 12-11-2021 Accepted: 15-02-2022
DOI: http://doi.org/10.4038/sljs.v40i1.8895

Incidence of primary epiploic appendagitis accounts for 8.8 cases/ 106 population per year [2]. This is a disease of the middle-aged population with the peak in the 4th and 5th decades [2,4]. However, there are isolated reports involving paediatric, young and elderly patients. There is a slight male gender predilection [3].

Appendices epiploicae which develop in the fetal life are believed to provide some degree of mechanical protection during peristalsis, to involve in the host immunity and to store fat [2]. As a result, they enlarge in size in the adults and they are larger in the obese population. These larger pedunculated masses can easily undergo torsion with subsequent appendagitis. Thus, obesity is a well-known risk factor for epiploic appendagitis. Other risk factors include intensive strenuous exercises and the presence of a hernia [3].

Epiploic appendagitis is notorious for its nonspecific sharp abdominal pain which is usually non-migrating and localized [3]. There may be features of peritonism. It can mimic an acute abdomen of various origins. A common site of appendagitis is the sigmoid colon which may mimic acute diverticulitis. Epiploic appendagitis of the caecum may mimic acute appendicitis as in our patient. Other differential diagnosis includes acute cholecystitis, ovarian torsion, salpingooophoritis, regional enteritis etc [2].

Patients may remain normothermic or may run a mild fever. Usually, they are otherwise clinically well. Inflammatory markers including white cell count and C-reactive protein may be normal or slightly high [2]. This provides the treating surgeon with a diagnostic dilemma and is often misdiagnosed.

Until the last two decades when cross-sectional imaging was not readily available, epiploic appendagitis was an intraoperative diagnosis warranting exploration with all the surgical and anaesthetic morbidities and often resulted in administration of intravenous antibiotics resulting in a prolonged hospital stay. Recent advances and increased availability of imaging like contrast-enhanced computed tomography of the abdomen resulted in the timely diagnosis of this self-limiting condition [5].

Ultrasonographic features of epiploic appendagitis include a hyperechoic non-compressible mass with a hypoechoic rim, in the absence of central vascularity as noted in the doppler study. Contrast-enhanced computed tomography which is the gold standard imaging modality identifies this as an ovoid (0.5-5cm sized) fat density lesion with surrounding inflammation and thickened parietal peritoneum. A thrombus in the epiploic vein may represent the characteristic "central dot". Magnetic resonance imaging may identify it as an oval lesion with fat tissue intensity in T1, T2 weighted images and there might be a ring enhancement with Gadolinium [4,5].

Once the diagnosis is established the patient can be safely managed with analgesics and anti-inflammatory agents like NSAIDs considering the self-limiting course of the disease [2,5]. Usually, complete resolution occurs in 7-14days [1]. However, the resolution of imaging findings takes a longer duration. Failure of resolution of symptoms or recurrent symptoms may be dealt with laparoscopic resection of the non-infected inflamed appendage, thus reducing the surgical morbidity [2].

Occasionally, epiploic appendagitis may be complicated with detachment resulting in intraperitoneal loose bodies or "peritoneal mice" formation, calcification, adhesions, abscess formation, peritonitis and intestinal obstruction [2]. Unfortunately, due to the unavailability of cross-sectional imaging, functioning laparoscopic equipment and the rarity of the condition, our patient underwent an open surgical exploration and resection of the necrotic appendage. However, the patient had an unremarkable recovery and was discharged.

Conclusion

Non-specific, non-migrating, sharp, localized abdominal pain with near-normal inflammatory markers in an otherwise stable patient should be promptly evaluated with a cross-sectional imaging to exclude rare conditions like epiploic appendagitis. Epiploic appendagitis is better managed conservatively if diagnosed preoperatively.

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

References

1. Suresh Kumar VC, Mani KK, Alwakkaa H, Shina J. Epiploic Appendagitis: An Often Misdiagnosed Cause of Acute Abdomen. Case Rep Gastroenterol. S. Karger AG; 2019 Sep 5;13(3):364-8. Available from: http://dx.doi.org/10.1159/000502683
2. Giannis D, Matenoglou E, Sidiropoulou MS, Papalampros A, Schmitz R, Felekouras E, Moris D. Epiploic appendagitis: pathogenesis, clinical findings and imaging clues of a misdiagnosed mimicker. Ann Transl Med. 2019 Dec;7(24);814-8. Available from: http://dx.doi.org/10.21037/atm.2019.12.74
3. Chan E, Banna AE. A case report of epiploic appendagitis as a mimic of acute cholecystitis. Int J Surg Case Rep. 2018; 53:327-9. Available from: http://dx.doi.org/10.1016/j.ijscr.20.18.11.003
4. Aljilly S, Ahmed Z. Epiploic appendagitis of the vermiform appendix-An unusual mimic of acute appendicitis. Radiol Case Rep. 2020 Mar;16(3):511-5. Available from: http://dx.doi.org/10.1016/j.radcr.2020.12.005
5. Chu EA, Kaminer E. Epiploic appendagitis: A rare cause of acute abdomen. Radiol Case Rep. 2018 Jun;13:599-601. Available from: http://dx.doi.org/10.1016/j.radcr.2018.02.022

Learning Points:

- Epiploic appendagitis is a rare cause of acute abdomen, notoriously capable of mimicking many abdominal conditions.
- Absence of typical symptoms and characteristic features in a contrast enhanced CT abdomen helps prompt diagnosis of the condition which can be safely managed conservatively.