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Acute epiploic appendicitis: Diagnostic and laparoscopic approach

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ABSTRACT

INTRODUCTION: Acute epiploic appendicitis is a relatively rare disease that mimics a varied number of diseases.**PRESENTATION OF CASE:** In this paper we report a 24-year-old male who presented with epiploic appendicitis that might have been misdiagnosed by physicians due to its equivocal presentation imitating more common acute abdominal conditions like acute appendicitis or acute diverticulitis depending on the site of the inflamed appendage.**DISCUSSION:** The clinical presentation, investigations findings and both conservative and surgical interventions of the patient are mentioned within the report.**CONCLUSION:** Radiological imaging like enhanced CT scan of the abdomen has an important role in differentiating acute epiploic appendicitis from other acute abdominal conditions along with the proper physical examination, thus promoting conservative management and avoiding surgery. However, failure of conservative management might lead to the surgical intervention.© 2018 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Epiploic Appendicitis causes a diagnosing dilemma mimicking common acute abdominal emergencies, depending on the site of occurrence in the colon [1]. It is caused by the inflammation of small fat-filled out pouching serosal structures of the large intestine called “epiploic appendices”, the normal size ranging from 0.5 to 5 cm (Fig. 1). They are supplied by one or two arterioles and a single venule [2]. 50–100 of the out pouching appendices are distributed on the external surface of the cecum to the recto-sigmoid parts of the colon. The inflammation is caused by either spontaneous torsion causing ischemia, hence gangrenous necrosis of the appendage or by primary thrombosis of the draining vein and inflammation [3]. The true incidence is unknown being more common in males in their second to fifth decades with a mean age of 40 [4].

We will discuss a case of a 24-year old male with acute epiploic appendicitis. Discussion about his clinical presentation, clinical and radiological diagnosis, and both management approaches conservative; failing, and leading to surgical intervention.

2. Case report

A 24-year-old male who presented to the Emergency Department with right lower quadrant pain that started few hours prior to presentation. The patient reported that the pain started a week earlier 2 h after fast food consumption as generalized abdominal colicky pain that shifted to the RLQ in less than 24 h with nausea, low grade fever and loss of appetite. The pain is not radiating with a score of 7 out of 10. There was no vomiting or change in bowel habits and no loss of weight. The pain was alleviated with over-the-counter drugs, Panadol, and aggravated after eating or by applying pressure on the right lower quadrant region. The patient is known to have epilepsy and bronchial asthma but not on medication. Surgical history is negative and no chronic medications. On Abdominal examination he had localized tenderness in the right lower quadrant with guarding and rebound tenderness. Laboratory results showed an increase in C – reactive protein (CRP), Complete Blood count showed normal WBC. Abdominal CT scan with contrast showed a normal appendix (Fig. 2) but there is a mild thickening of the right paracolic gutter with the stranding of the posterolateral fat to cecum with a 12 × 9 mm in dimensions, the lesion has a peripheral hyper density and fat central density (Fig. 3(A), (B)) A diagnosis of Epiploic Appendicitis was established. The patient was discharged on Acetaminophen, ciprofloxacin and Ibuprofen for 1 week. The patient symptoms improved in the first 2 days but relapsed on the third day with symptoms of nausea, loss of appetite, fever, and RLQ abdominal pain, He was admitted to the surgical

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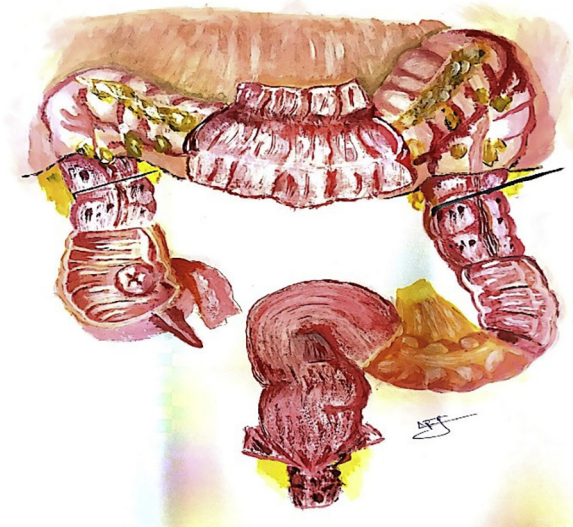


Fig 1. Normal epiploic appendage drawing.



Fig. 2. Patient Abdominal CT scan: Normal diameter appendix with no evidence of inflammation of the adjacent fat.

ward, kept NPO, given IV fluids and IV antibiotics. Laboratory results showed an increase in C – reactive protein (CRP) count of 46.1 mg/L; normal CRP range is 0–10 mg/L. Complete Blood count showed normal WBC with neutrophils count of 28.1% (low) and lymphocytes count of 50.9% (high). Due to lack of response to the conservative treatment, Laparoscopic Appendectomy was performed under general anesthesia. Through 3 ports through the umbilicus, the suprapubic area and the Left Lower quadrant, exploration showed bluish discoloration with torsion of the epiploic appendage in the cecum remote from the appendix which was slightly enlarged (Fig. 4), the surgeon resected the inflamed thrombosed epiploic and the appendix was removed likewise. Final Pathology report consistent with Epiploic Appendagitis.

A



B



Fig. 3. (A), (B) Patient CT scan: showing Mild thickening of the right paracolic gutter with the stranding of the posterolateral fat to cecum with a 12 × 9 mm lesion with a peripheral hyper density and fat central density.

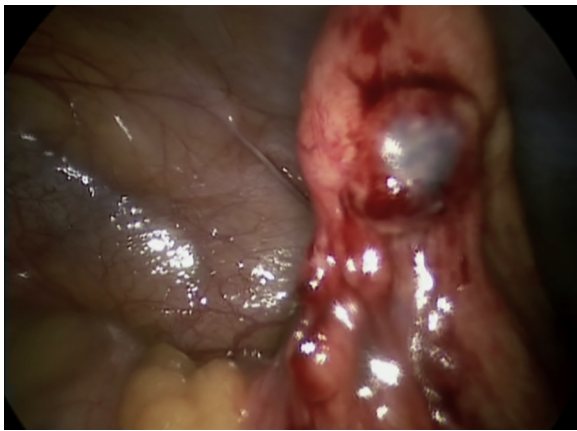


Fig. 4. Laparoscopic Torsion and thrombosis of an epiploic appendage.

All the work has been reported in line with the SCARE criteria.

3. Discussion

Epiploic appendages are small fat filled pedunculated outpouching of the colon that are found on the external surface; they are covered with serosa and they are supplied by a small circular artery and a vein from the corresponding arterial supply segment of the colon. The sub serosal lymphatic channels either end in a lymph node in the appendage or loop through its base to the mesenteric lymph node [5,6].

There are 50–100 appendages all over the colon but more abundant in the rectosigmoid junction (57%) and transverse colon. However, they are rudimentary at the base of the appendix. Most of them are 1–2 cm in thickness and 2–5 cm long but occasionally 15 cm long mostly in patients who are obese or lost weight recently [5,7,8].

The exact role of these appendages is not clear, but many theories suggest that they act as a cushion to the blood supply of the colon during peristalsis [5].

Such appendages are susceptible to torsion which leads to ischemia and gangrenous necrosis especially after exertion because of their limited blood supply and the pedunculated structure, causing a sharp localized non radiating pain; typically not associated with nausea and vomiting or fever or change in the bowel habits, in contrast to what happened with our patient in which he had increased temperature and nausea without vomiting. In most cases CRP level will be elevated as in our case, as for many WBC count was reported to be normal in many cases. In our case, the patient has presented the second time with neutropenia which can be explained with the use of ciprofloxacin for 3 days [9].

Due to the vague clinical presentation it is difficult to differentiate it from other more common acute abdominal conditions with physical examination and lab tests only, therefore the best available modality is to do enhanced CT scan of the abdomen which will detect the inflamed appendage and differentiates it from other acute abdomen causes like diverticulitis, omental infarction or appendicitis and guide the physician to the conservative management. The latter will be more convenient for the patient as it will prevent hospitalization and surgical intervention [5].

Typically, epiploic appendagitis is self-limiting with an average of 10 days, however in case the conservative treatment failed and symptoms persist as in our case, surgical intervention (laparoscopic appendectomy) will be the best approach to such patients to reduce the incidence of complications.

4. Conclusion

Our aim in this case report is to highlight one of the rare clinical presentations that every surgeon should keep in mind while differentiating the causes of localized acute abdominal pain as it could be confused with other similar conditions like acute appendicitis or diverticulitis. And the importance of performing proper physical examination along with enhanced CT scan of the abdomen in reaching the diagnosis to prevent unnecessary hospitalization and surgery. However, in cases of persistent symptoms and failure of the conservative treatment, the patient might still need laparoscopic appendectomy of the inflamed appendage.

Conflicts of interest

Nothing to declare.

Funding source

Nothing to declare.

Ethical approval

Ethical approval has been exempted by University hospital sharjah.

Consent

Consent was taken from the patient upon admission to the hospital, written consent signed by the patient that his data could be used for research purpose.

Author contribution

Toufik A. Tabbara: the head of the surgery department who performed the surgery and follow up of the patient, study design and writing paper.

Omar alassaf: study concept, data collection, interpretation and writing paper

Mujtaba Kaouas: study concept, data collection, interpretation and writing paper.

Areej alrawii: drawing normal epiploic appendicitis.

Guarantor

Toufik A. Tabbara.

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