Case Report

Epiploic Appendagitis: Case series report of a Common but an often-missed Diagnosis

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Abstract

Background: Epiploic appendagitis to the unsuspecting and unexperienced physician might prove a diagnostic conundrum resulting in unwarranted surgical intervention.

Method: This is a case series report of two patients presenting with non-specific abdominal pain that mimicked acute abdomen. Clinical examination findings were equivocal but the radio-diagnostic work-up revealed the presence of epiploic appendagitis. Laboratory parameters were also with normal ranges. These patients responded well to conservative management.

Conclusion: The diagnosis of epiploic appendagitis need to be considered as a differential of acute abdominal pain whenever possible. The principal factor to this diagnostic success is the availability of the computerized tomogram otherwise; such patients wound have been considered for surgical intervention especially in resource-limited centres.

Keywords: Epiploic appendagitis, Diagnosis, Radiology, Conservative management.

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Introduction

Epiploic appendagitis (EA) is the inflammation and/or torsion of the epiploic appendages which are vascularized adipose tissue structures attached to the peritoneal surface of the bowel.[1] it has been described as a rare cause of lower abdominal pain that could mislead the surgeon for an acute abdomen.[2] On the left lower abdomen, this could mimic diverticulitis while on the right lower abdomen, this could mimic appendicitis.[3,4] This often may require hospital admission and in some cases, patients earn unwarranted surgical intervention. It is an often a benign, self-limiting disease with overall good prognosis. Many patients will present with non-specific abdominal pain that would require close evaluation using appropriate modalities especially the computerized tomogram. This report describes two patients who presented with epiploic appendagitis mimicking acute abdomen.

Case summary 1

AAA, a 20-year-old, male patient presented to the emergency room with a 3-day history of acute exacerbation of recurrent generalized abdominal pain, more towards the left abdomen. The abdominal pain started about 6 months prior to this presentation and the patient has visited the hospital on several occasions. There was no nausea, vomiting or fever but 2 episodes of passage of watery stool. Clinical examination reveals a young man, with stable vital signs. Abdominal examination revealed lower abdominal tenderness with equivocal bowel sounds. He has abdominal sonography which was inconclusive and later did contrast-enhanced abdominal computerized tomography which showed a 3mm x 0.7mm fat density ovoid structure with surrounding thin hyperdense rim and adjacent fat stranding lateral to descending colon suggesting epiploic appendagitis. His complete blood count was normal (WBC 8200, Hb 11.1g/dl). Electrolytes and liver function tests were all normal. He was admitted and managed non-operatively with parenteral analgesics and IV fluids and prophylactic doses of parenteral broad-spectrum antibiotics. His condition improved and he was discharged home on the 4th day to out-patient clinic follow-up.

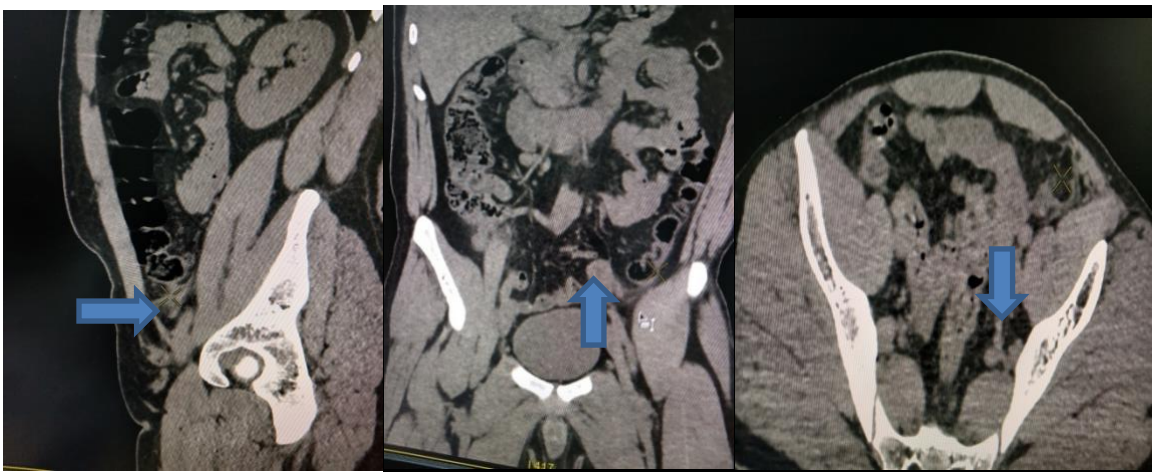

Figure 1: Sagittal view **Figure 2:** Coronal view **Figure 3:** Axial view

Different views of non-contrast abdominal CT scan showing features of the epiploic appendagitis (Patient 1)

Case summary 2

AMM, a 19-year-old male, presented to the emergency room with a 3-day history of acute exacerbation of recurrent right lower abdominal quadrant pain. No nausea, no vomiting but with mild fever. No significant medical history of any co-morbidity. Clinical examinations reveal tenderness at right iliac fossa however, other clinical features of acute appendicitis were negative. Laboratory investigations were all within normal count. Abdominal sonogram done had equivocal findings. Abdominal CT scan revealed a focal retrocaecal fat-density ovoid-shaped structure with surrounding thin hyperdense rim and minimal fat stranding. No evidence of appendicitis or terminal Ileum thickening. A suggestion of epiploic appendagitis was made. He had conservative management with intravenous fluids and analgesics and was discharged home after 5 days.

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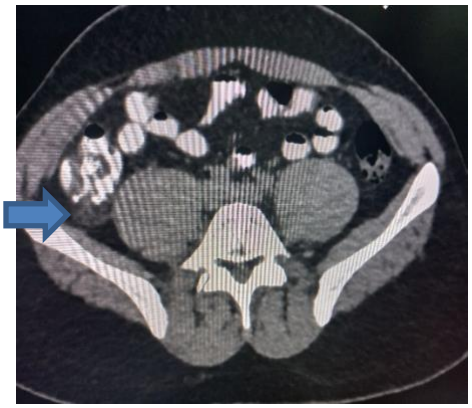

Figure A

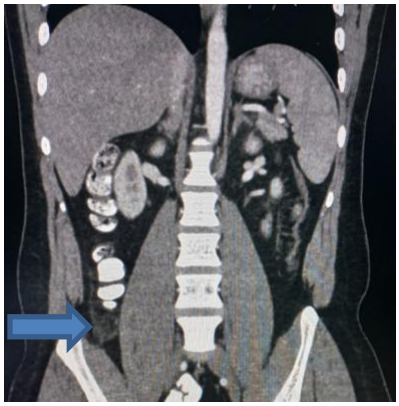

Figure B

Axial non-contrast (Fig A) and coronal contrast-enhanced (Fig B) Abdominal CT scans showing features suggestive of epiploic appendagitis (Patient 2)

Discussion

This pathology was first described and reported in 1956 by Dockerty as the ischemic infarction of the epiploic appendage sequel to torsion or thrombosis of the draining vein.[5,6] Ever since there has been variation in the reported incidences across many centers in different climes. The reported the incidence of epiploic appendagitis to be 1.3-2.5%.[7,8] Previous studies have shown more male predilection in their 2nd to 3rd decade of life however, no reason was clearly stated for this observation. [9,10] Our two index patients being reported are males whose ages are within the earlier described age bracket for this pathology. These findings again substantiated the earlier reports of previous authors about the demography of the disease.

The pathophysiology of this disease entity is attributed to vascular events viz torsion or venous thrombosis of the feeding vessel (lying within the stalk of the epiploic appendage) thereby leading to ischemic changes, hemorrhagic infarction and eventual inflammation.[11] Another mechanism that has been described is the inflammation of contiguous structures such as it occurs in appendicitis, diverticulitis or cholecystitis leading to pain in the right iliac fossa, left iliac fossa or right hypochondrial region respectively.[9]

Clinical symptomatology could be confusing as the patient could present with features suggestive of appendicitis, diverticulitis or cholecystitis. It therefore takes a thorough clinical evaluation to be able to rule out these entities; hence, avoiding unwarranted surgical procedures in such patients. Except for the focal tenderness that may be present, the abdomen is otherwise soft, and there may not be other signs suggestive of a surgical abdomen as encountered in our index patients.

Laboratory investigations in patients with EA usually reveal normal total white cell count with attendant normal neutrophil count, and this marker helps to differentiate EA from other acute inflammatory condition such as appendicitis, cholecystitis or diverticulitis. Other markers that could be of significant clinical importance include the C-reactive protein.[12] Radiological investigations have been the main diagnostic tools for epiploic appendagitis with the use of percutaneous transabdominal sonography, computerized tomography scan (CT scan) and magnetic resonance imaging (MRI).[13] However, CT scan has been more reliable and has been described to be the mainstay of diagnosis of this disease entity over the years.[13] Diagnostic CT scan findings that were suggestive of EA as seen in our patients include a fat-density ovoid structure adjacent to colon, a thin high-density rim, known as hyperattenuating ring sign and a surrounding inflammatory fat-stranding. A central hyperdense dot (representing the thrombosed vascular pedicle) and adjacent lymph nodes are other possible findings.[14,15]

The management of EA is largely non-operative. Patients with this pathology have been found to respond to the use of analgesics, antibiotics and anti-inflammatory medications. Most patients respond to this treatment with no need for surgical intervention. Surgical intervention may become necessary in recalcitrant cases due to failure of medical treatment, risk of abscess formation, intussusception or bowel obstruction from adhesions

Our patients in this study were managed non-operatively and they did respond to the use of intravenous fluids, parenteral antibiotics and analgesics. They were discharged home to be followed up at the surgical and gastroenterology out-patient clinics.

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Implications of the findings of this case series

The findings draw the attention of the clinicians especially those practicing in resource-limited climes, to this abdominal pathology which may mimic acute surgical abdomen. The knowledge of this entity would prevent unmerited surgical exploration.

Strengths and Limitations of the case series

Various authors have documented their experience on this entity thereby making the pathology a significant differential diagnosis of abdominal pain. However, there are few reports of similar pathology from resource-limited regions.

Conclusion

Epiploic appendagitis is a clinical entity that surgeons need to be aware of. The clinical presentation may mimic that of an acute abdomen; however, with adequate laboratory and radiological evaluation, surgery in averted and patients do well on conservative measures.

Declarations

Authors' Contribution: AA Adejumo and Osobu both were involved in the evaluation and management of these patients. Both authors conceived the idea of writing this article and both authors were involved in literature search and final review of this manuscript.

Conflict of interest: *Nil*

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