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EPIPLOIC APPENDAGITIS: AN UNCOMMON CASE OF ACUTE ABDOMINAL PAIN WITH CHARACTERISTIC IMAGING FINDINGS.

Surgery

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ABSTRACT

Introduction: Epiploic appendagitis is an uncommon cause of abdominal pain and is frequently undiagnosed. Obese men in their 4th and 5th decade of life are most affected. It generally mimics other serious causes of acute abdomen and thus the definitive diagnosis relies on cross-sectional imaging primarily computed tomography findings. Most often the condition is caused due to torsion of an epiploic appendage or spontaneous venous thrombosis of a draining appendageal vein. Appendices epiploicae are small (0.5-5 cm long), fat filled pouches of peritoneum projecting from the external surface of colon and are supplied by blood vessels that protrude through the bowel wall. They are present commonly over distal colon particularly numerous at the rectosigmoid junction.

Case: We are reporting a case of 42 years old male patient, who presented to the surgical OPD at Dr. RPGMC Tanda with chief complaint of acute abdominal pain localized in the left iliac fossa with tenderness in the region. The ultrasonography report was inconclusive and the patient was further evaluated using biochemical investigations and contrast enhanced CT of the abdominopelvic region. The CECT revealed fat dense ovoid shaped lesion in the left iliac fossa with surrounding fat stranding and hyperdense rim suggestive of intraperitoneal focal fat infarction. The condition was managed conservatively with empirical antibiotics and analgesics.

Conclusion: Epiploic appendagitis is a self-limiting disease but persistence of symptoms or recurrence requires surgical management with laparoscopic appendage excision. The anatomical and surgical knowledge of epiploic appendagitis is very important to raise awareness about this clinical condition and to manage it appropriately.

KEYWORDS

Abdominal Pain, Appendices Epiploicae, Epiploic Appendagitis

INTRODUCTION

Epiploic appendagitis is an uncommon cause of abdominal pain and is frequently undiagnosed. Obese men in their 4th and 5th decade of life are most affected. It generally mimics other serious causes of acute abdomen and thus the definitive diagnosis relies on cross-sectional imaging primarily computed tomography findings. Most often the condition is caused due to torsion of an epiploic appendage or spontaneous venous thrombosis of a draining appendageal vein.[1,2] The frequency of epiploic appendagitis is estimated at 1.3% and its incidence at 8.8 cases/million/year.[3]

Appendices epiploicae are small (0.5-5 cm long), fat filled pouches of peritoneum projecting from the external surface of colon located on the taeniae (taenia libera and taenia omentalis) and are supplied by blood vessels that protrude through the bowel wall. They are present commonly over distal colon particularly numerous at the rectosigmoid junction.[4] They occur in the rectosigmoid junction (57%), ileocecal region (26%), ascending colon (9%), transverse colon (6%) and descending colon (2%).[5]

Epiploic appendagitis may be primary or secondary Primary epiploic appendagitis is caused by torsion or spontaneous venous thrombosis of the involved epiploic appendage. Secondary epiploic appendagitis is associated with inflammation of adjacent organs, such as diverticulitis, appendicitis or cholecystitis.[6]

Clinically, the patients usually present with nonspecific acute abdominal pain with a normal white cell count or slight leucocytosis. Recently an ultrasonographic pattern has been described of a small, oval, hyperechoic, non-compressible mass, with an occasional peripheral hypoechoic halo. The CT findings are typical, showing a mass in contact with the serous surface of the adjacent colon with a similar attenuation to fat.[7,8]

It is a self-limiting disease and mostly manged conservatively but persistence of symptoms or recurrence requires surgical management with laparoscopic appendage excision.[9]

CASE

We are reporting a case of 42 years old male patient, who presented to the surgical OPD at Dr. RPGMC Tanda with chief complaint of abdominal pain in the left lower quadrant which was sudden in onset and gradually progressive. The pain was dull aching type and non-radiating. Patient had an episode of undocumented fever. There was no history of vomiting or any altered bowel and bladder habits. Patient had no other significant medical and surgical history. The vitals of patient were within normal limits with a BMI of 29.1kg/m^2. On local examination, the abdomen was soft with localized tenderness in the left iliac region. There was no guarding and rigidity. The biochemical investigations were within normal range. The ultrasonography report was inconclusive and the patient was further evaluated by contrast enhanced CT of the abdominopelvic region.

The CECT revealed fat dense ovoid shaped lesion in the left iliac fossa, with a hyperdense peripheral rim and central hyper density measuring about1.9cm*2.6cm*2.8cm [Anteroposterior* Transverse* Circumferential] in maximum dimension. The lesion was seen anterior to the sigmoid colon with minimal associated anterior colonic wall thickening. There was surrounding fat stranding with mild thickening of adjacent peritoneum as seen in Fig.1. These findings were characteristic of intraperitoneal focal fat infarction suggesting epiploic appendagitis. The liver measured approximately 16.9cm in craniocaudal span with smooth outline. The gall bladder was distended and normal. Spleen measured 10.1cm in craniocaudal span with normal attenuation. Pancreas was normal in bulk. Bilateral kidneys with normal size and outline and nephrographic density. Opacified bowel loops with normal calibre. There was no ascites and no significant mesenteric adenopathy. Urinary bladder was distended and normal. The prostate and bilateral seminal vesicles were normal.

The patient was managed conservatively with empirical antibiotics and analgesics and showed improvement over the course of time.

Figure 1: CT coronal view showing peritoneal thickening and pericolic fat strandings.

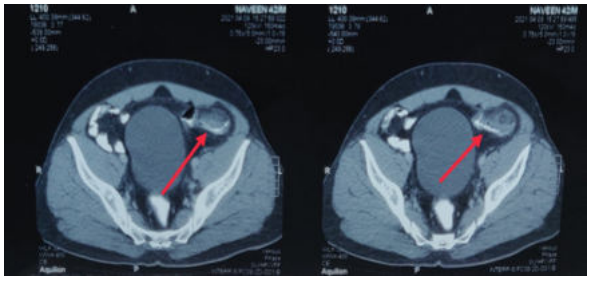

Figure 2: CT axial view showing peritoneal thickening and pericolic fat strandings.

DISCUSSION

Epiploic appendagitis is inflammation of fat filled appendices epiploicae of colon. It has been reported to occur mostly in obese patients but other factors include intensive strenuous exercise and presence of hernia. The pathogenesis is due to torsion of epiploic appendage with subsequent impairment of blood supply leading to ischemia. This results in oedema, ischemic necrosis and finally aseptic inflammation of the affected appendage.[9]

The trademark sign in diagnosis by CT scan consists of an ovoid mass measuring between 1.5 and 3.5 cm in maximal diameter with fat attenuation, surrounded by a hyperdense ring corresponding to the inflammatory reaction of the overlying serosa (visceral peritoneum).[6,10]

Choi et al in their retrospective case series study of 31 patients with primary epiploic appendagitis, reported abdominal tenderness (100%) and right or left lower quadrant abdominal pain (41.9% and 41.9%, respectively) as the most common presenting symptoms in their cohort, whereas muscle rigidity and fever were absent in all patients.[10]

Molla et al in their study examined 84 patients with a clinical history of pain suggestive of acute diverticulitis of the sigmoid colon. The USG and CT findings were compatible with epiploic appendagitis in six (7.1%) of patients investigated to exclude sigmoid diverticulitis. US imaging findings were characteristic: a hyperechoic mass localized under the point of maximum pain, adjacent to the anterior peritoneal wall and fixed during deep breathing. Ct findings were also typical and showed a mass with a peripheral hyper attenuated rim surrounding an area of fatty attenuation.[11]

A retrospective case control study conducted by Nugent et al involving patients with primary epiploic appendagitis and patients presenting with other causes of acute abdomen, reported that pea subgroup had 60% greater abdominal adipose volume and 117% increased visceral adipose area.[12]

Most patients are managed conservatively and show resolution of symptoms within 1–2 weeks, but the CT pathognomonic changes may persist for up to 6 months and physicians should be aware of these imaging residual findings, in order to avoid misdiagnosis of patients.[6]

CONCLUSION

Epiploic appendagitis is a very uncommon surgical cause of acute abdominal pain that remains frequently undiagnosed. The widespread use of CT scans in the diagnosis of acute abdominal pain has led to easy identification of this condition and its reported incidence is now increasing. The complete knowledge of surgical anatomy and typical radiological findings of epiploic appendagitis is imperative for appropriate management.

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