

Case Report

Ectopic Epiploic Appendagitis Mimicking a Solid Mesenteric Mass: A Diagnostic Challenge

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ABSTRACT

Mesenteric masses are rare intra-abdominal tumors that may present as either cystic or solid lesions, with benign or malignant potential. They are usually asymptomatic and typically identified incidentally during the investigation of patients for nonspecific abdominal complaints.

In our manuscript, we report the case of a 42-year-old multiparous woman who was discovered to have a mesenteric mass on ultrasound during evaluation for symptomatic cholelithiasis. Contrast-enhanced CT scan revealed a 4x3.5 cm solid lesion in the mesentery of the jejunum close to the superior mesenteric artery. Endoscopic ultrasound failed to localize the mass and MRI was not done due to the patient's claustrophobia. The patient subsequently underwent laparoscopic cholecystectomy along with excision of the mass. Histopathological examination was consistent with strangulated epiploic appendage.

Epiploic appendages are uncommon incidental finding that are rarely seen outside the colonic region. Knowledge of this pathology and its radiological characteristics is fundamental for prompt diagnosis and early management.

Keywords: Epiploic Appendages, Mesenteric Mass, Infarction, Resection.

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Introduction

Mesenteric tumors are uncommon entities with the incidence of approximately 1 per 100,000. They are divided into either cystic or solid. Cystic masses can be differentiated into unilocular or multilocular. Solid masses are usually neoplastic in origin, with differential diagnoses including carcinoid tumours, desmoid tumours, liposarcoma, gastrointestinal stroma tumours, solitary fibrous tumour or metastatic disease [1].

We describe a case of a benign solid mesenteric mass that was successfully managed by laparoscopic resection, resulting in a favorable outcome.

Case Presentation

In our manuscript, we report the case of a 42-year-old

female who was referred for evaluation of a mesenteric mass with associated weight loss (10 kgs in 3 months). The mass was incidentally detected during investigations for nonspecific mid-abdominal pain. The patient denied having nausea, vomiting, changes in bowel habits. She also reported no previous history of pancreatitis or colitis. The patient had undergone a laparoscopic sleeve gastrectomy 4 years earlier, with an uneventful postoperative course.

Upon further investigation, tumor markers showed elevated CEA. Abdominal ultrasonography revealed the presence of gallbladder stones. Contrast-enhanced CT scan showed a 3x3 cm solid lesion in the mesentery of the jejunum close to the superior mesenteric artery (Fig 1). Upper and lower endoscopies were unremarkable. Lesion was not accessible by endoscopic ultrasound to take tissue biopsy. Moreover, MRI was not done due to her claustrophobia.

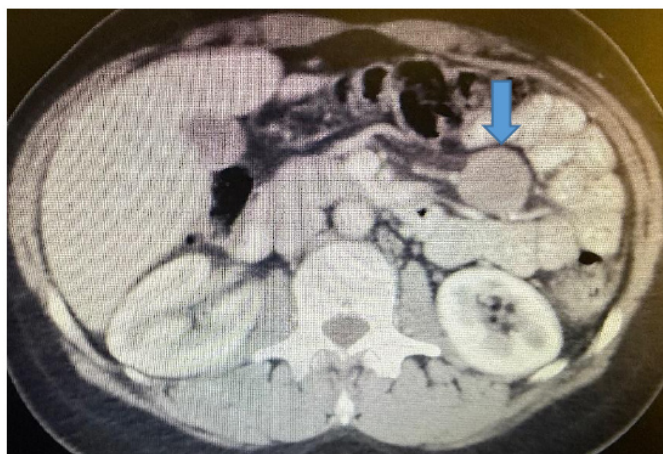


Figure 1. Showing a 4 x 3.5 cm solid mass at the mesentery under the transverse colon (Blue arrow).

The decision was made to perform laparoscopic resection of the mesenteric mass with cholecystectomy. Access into the abdomen was attained via the old scars of sleeve gastrectomy. Transverse colon was retracted aiming to identify ligament of Trietz where mesenteric mass was seen beside the jejunum abutting a branch from the superior mesenteric artery. Careful sharp and blunt dissection was carried out and the lesion was eventually removed from the mesentery followed by cholecystectomy. Hemostasis was secured and both specimens were extracted in an endobag.

Gross examination demonstrated an un-oriented mildly firm tissue specimen measuring 4x 3.5 x 2.5cm (Fig 2), yellow to tan in colour, with cut surfaces showing soft, yellow, cheesy-like material indicating caseation necrosis. Histopathological features were consistent with an old strangulated appendices epiploicae with central fat necrosis and calcific foci (Fig 3, Fig 4). Crucially, the mass showed no signs of malignancy.



Figure 2. Coronal and sagittal Views denoting the relationship of the mass with the surrounding organs (Blue arrow).

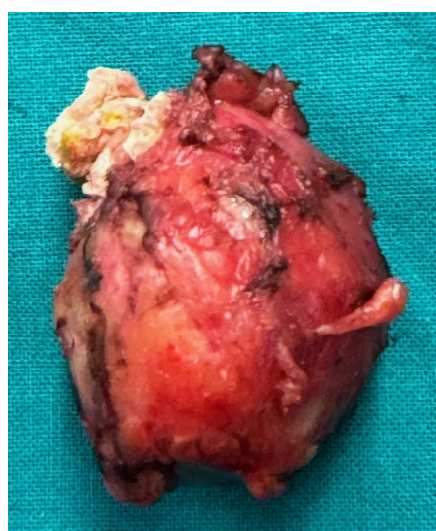


Figure 3. Gross appearance revealing a tan yellow containing cheesy like material indicating infarcted epiploic appendage..

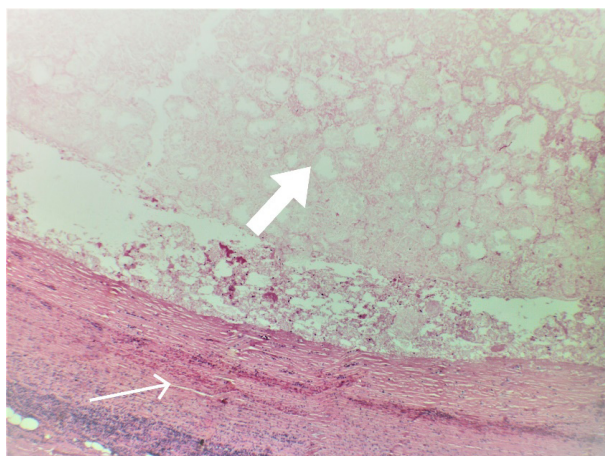


Figure 4. Microscopic examination demonstrating central infarcted adipose tissue (thick arrow) with peripheral circumferential thick, inflamed fibrous tissue rim (thin arrow).

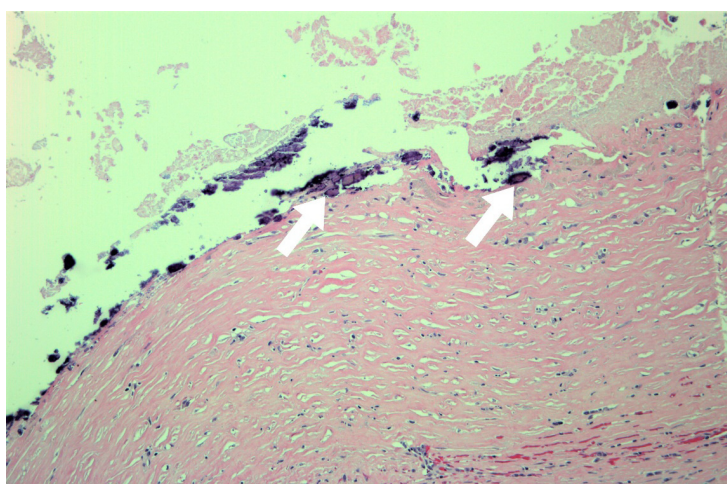


Figure 5. Histopathologic aspect showing calcifications.

DISCUSSION

Epiploic appendages are peritoneal fat outpouchings located on the anti-mesenteric surface of the colon. They are fundamentally comprised of fat tissue anchored to the large bowel, each with its own blood supply and venous drainage [2]. Although present across the full extent of the colon, they are more frequently seen in the sigmoid and transverse sections of the large bowel.

Infarction of an epiploic appendage, usually due to torsion or spontaneous venous thrombosis, leads to fat necrosis, hemorrhage, and subsequent hyalinization, fibrosis, and calcification. All that is usually identified on histopathological examination [3]. The infarcted appendage may remain attached to the colon or detach (i.e., auto-amputate) and lie loose in the peritoneum. Detached infarcted appendages, referred to as peritoneal loose bodies or peritoneal mice, are usually small, firm, white, spherical structures covered by glistening serosa, and can rarely be of proportionate size to resemble an egg [4]. Depending on the anatomical location of the infarction, the clinical presentation may mimic other acute abdominal conditions; for example: sigmoid involvement can resemble ovarian

torsion, whereas transverse colon involvement may mimic acute cholecystitis [5].

When inflammation occurs without infarction of appendages, the terminology epiploic appendagitis is used. Calcification of these can result in a hard tumor-like masses. Etiology is usually due to twisting and torsion or spontaneous thrombosis of the epiploic appendage draining vein [6].

The rarity of this condition, combined with its non-specific clinical presentation, makes it frequently overlooked as a differential diagnosis in patients presenting with abdominal pain [7]. The conventional cohort impacted by epiploic appendages are obese males in their 40's, who typically present with emesis and localized abdominal pain. Recognized risk factors include obesity, increased abdominal fat, and strenuous physical activity [2].

While infarction from torsion or venous thrombosis is a common cause, epiploic appendagitis can correspondingly be due to inflammatory underlying pathologies in the adjacent abdominal or pelvic viscera [16]. There appears to be a correlation to developing epiploic appendagitis with a few factors including; current existence of an abdominal

hernia, arduous physical training and obesity [8]. None of these elements were encountered in our patient which makes the case furthermore enthralling.

From an embryological perspective, epiploic appendages develop during intrauterine life but only increase in size during adulthood which explains why their size is much more in obese patients [9]. The reported prevalence of epiploic appendagitis may rise in the future primarily due to advancements in diagnostic technology. In addition to the differential diagnoses outlined in our case introduction, other differential diagnosis of a mesenteric mass includes mesenteric lipoma, omental infarction, suture granuloma, mucinous cystadenoma, uterine fibroid or tuberculosis [10]

In our case, the cheesy-like material of the gross lesion resembling caseation necrosis grossly brought up the differential of tuberculosis, however it was ruled out. The microscopic examination showed central infarcted adipose tissue with ghost-like architectural outlines of adipocytes, and circumferential peripheral thick rim of inflamed fibrous tissue. Associated calcific foci are also seen, indicating that this mass has been there for some time. No hemosiderophages are noted. No granuloma or caseation necrosis is seen, ruling out the diagnosis of tuberculosis. No smooth muscle or neoplasia is identified, this also ruling out this being from an amputated pedunculated subserosal uterine fibroid. Microscopic differential diagnosis of fat necrosis from other causes (e.g. necrosis of pancreatic origin) was excluded as in them the necrosis is not rounded, encapsulated or free floating, and usually shows more inflammation. Based on the above, the pathology diagnosis of an infarcted epiploic appendage was given.

Computed tomography (CT) is the primary diagnostic tool for epiploic appendagitis, with characteristic features including an oval, fat-attenuated lesion adjacent to the colon, a thin high-density rim, surrounding fat stranding, a central hyperdense dot representing a thrombosed vessel, and a predilection for the anterior aspect of the large bowel [11].

Management is generally conservative, focusing on pain control typically with non-steroidal anti-inflammatory drugs. Surgical intervention is reserved for cases in which conservative treatment fails, symptoms recur, or the clinical condition worsens for example: persistent pain despite medication, fever, or tachycardia [12].

CONCLUSION

Mesenteric masses encompass a wide range of diverse presentations and etiology that can pose diagnostic challenges. A straddle epiploic appendage secondary to strangulation is an uncommon cause which may mimic other pathologies. Familiarity with this rare entity and its characteristic radiologic features can facilitate early detection and guide appropriate management.

Conflict of interest

Authors declare no conflict of interest.

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