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Challenging Diagnosis of Mesenteric Mucinous Adenocarcinoma Clinically Suspected Primary Ovarian Malignancy: Rare Presentation

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Case Report

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Abstract

A 37-year-old woman presented with lower abdominal pain, palpable mass in the left lower quadrant, nausea, vomiting, and absence of bowel movements. Initial ultrasound suggested a 9cm fibroid, however, MRI and CT scans revealed a malignant central mass with significant ascites, suspecting a mesenteric hematoma. Elevated CA-125 prompted further investigation. Surgical intervention revealed a large mesenteric mass, leading to a midline laparotomy, left salpingo-oophorectomy, and sigmoid colectomy. Pathology confirmed well-differentiated mesenteric mucinous adenocarcinoma with an unclear primary origin, possibly ovarian. Postoperative follow-up included regular CA-125, CEA monitoring, and periodic CT scans. Despite extensive evaluations, the primary origin remained undetermined. The patient is under regular follow-up. This case highlights the diagnostic challenges and importance of a multidisciplinary approach and emphasises the need for individualised patient management strategies.

Keywords: Mesenteric mucinous adenocarcinoma; Mesenteric mass; ovarian cancer; Diagnostic challenge; Multidisciplinary approach

Introduction

Mucinous cyst adenocarcinomas are epithelial tumours, very rare tumours that usually arise from the ovaries and pancreas and can arise in various intra-abdominal organs [1], and rarely occur from mesentery presenting diagnostic and therapeutic challenges when the primary origin is unclear [2]. We present this case report of a young lady with the complex clinical presentation of an abdominal mass and final diagnosis of mesenteric mucinous adenocarcinoma of uncertain primary origin [3].

Case Presentation

A 37-year-old woman presented with lower abdominal pain and a palpable mass in the left lower quadrant. The patient reported a gradual increase in the size of the mass, associated with nausea, vomiting, and absence of bowel movements. She had a history of irregular menstrual cycles, was using an implant contraceptive device and had up-to-date smear results. Her past medical and surgical history was non-significant. Initial ultrasound imaging suggested a large mixed echogenicity avascular mass measuring 9cm likely representing a fibroid and a normal CA 125 of 11. Further investigations, including CA 125 MRI and CT scans (Figure A, B & C), revealed a malignant-looking central mass with significant ascites, the lesion had not appeared to arise from the uterus or the ovary. Additional left-sided malignant soft tissue was revealed as suspected to be a mesenteric hematoma (Figure C). There was no history of trauma. FU CA 125 was high.

The surgical intervention was performed initial laparoscopy, but her ovaries were completely normal with no signs of malignancy in the pelvis. She was, however, found to have a large smooth mass arising under the descending colon mesentery (Figure D). That initiated a referral for colorectal input. Later, another surgery was planned that included a midline laparotomy and excision of a mesenteric tumour, left salpingo-oophorectomy, and sigmoid colectomy. Intraoperatively, a large mass from the retroperitoneum/sigmoid mesentery, adherent to the left ovary and fallopian tube and close to the left ureter was found. Pathological examination identified a well-differentiated mesenteric mucinous adenocarcinoma (Figure E) [4]. Despite extensive imaging and histopathological analysis, the primary origin of the tumour remained unclear, with ovarian origin being considered due to the immunohistochemical profile. After subsequent MDT discussion on treatment for mucinous adenocarcinoma of likely gynaecological origin, no clear GI primary was identified on further GI investigation, however, the left ovary also did not show any evidence of malignancy. A follow-up plan was discussed.

Postoperative follow-up included regular monitoring of CA-125 and CEA levels and periodic CT scans. The patient opted for conservative management with regular follow-up, although the possibility of further completion surgery (hysterectomy and contralateral oophorectomy) after 45 remains. Recent imaging and pathology reviews confirmed no evidence of relapse, and the patient continues under close surveillance by the gynaecology Oncology team.

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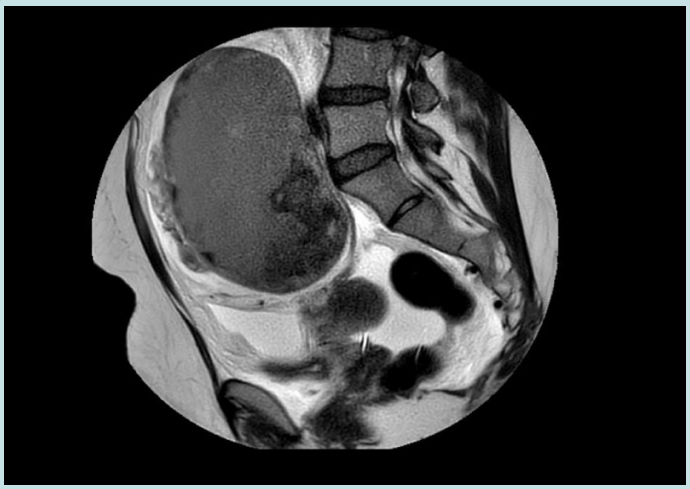

Figure A: CT image of a pelvic mass.

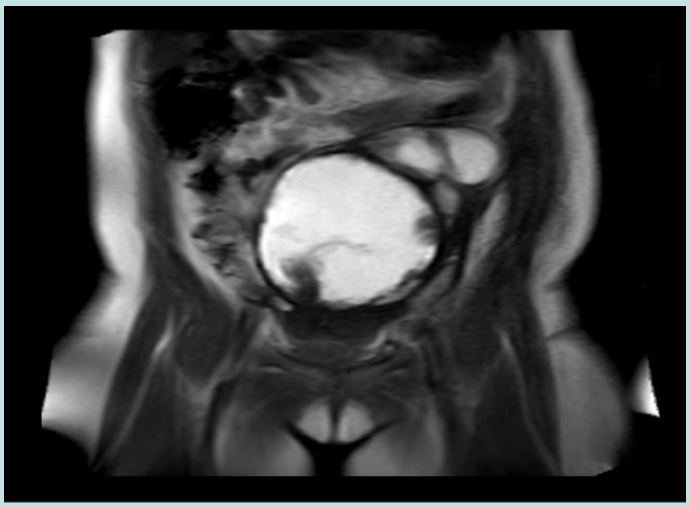

Figure B: CT image of abdomen and pelvis showing central mass.

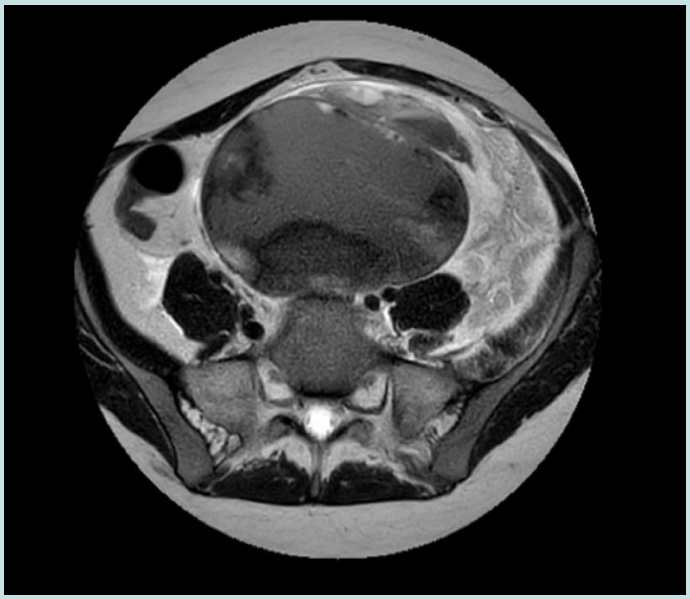

Figure C: CT image of Abdomen and pelvis.

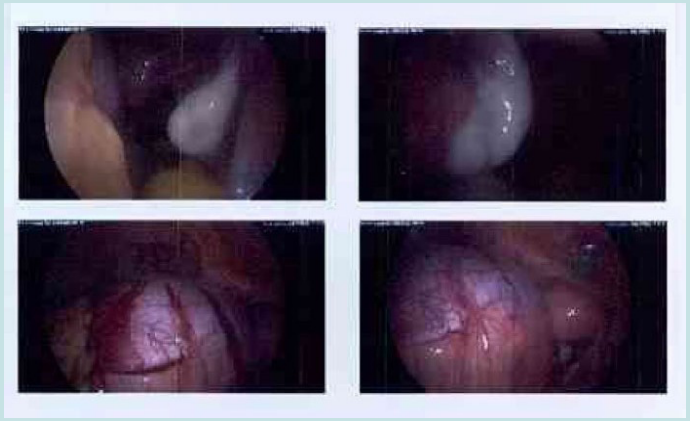

Figure D: Laparoscopic Intraoperative appearance of mesenteric tumour. Clinically, they were thought to be primary ovarian carcinoma.

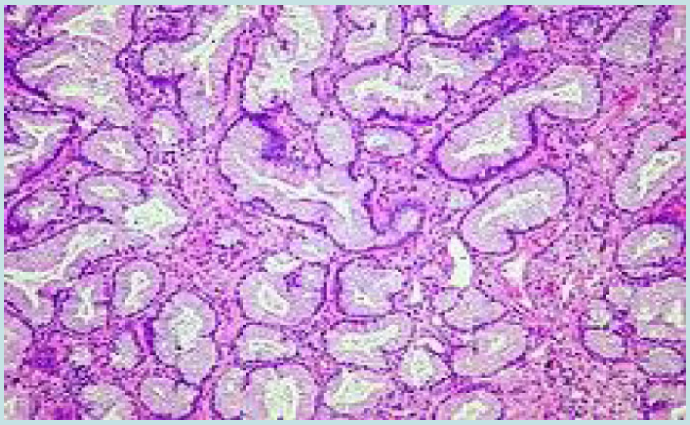

Figure E: Mucinous Cyst adenocarcinoma histopathology.

Discussion

This case highlights the significant diagnostic challenges, presented by mesenteric mucinous adenocarcinomas, especially when the primary origin is unclear [2]. These tumours are often present with nonspecific symptoms and ambiguous imaging findings, complicating diagnosis [1]. The complexity underscores the importance of a multidisciplinary approach, involving radiologists, surgeons, and pathologists, to obtain a more comprehensive understanding of the disease.

Radiological imaging plays a critical role in identifying and localising potential tumours, though mesenteric adenocarcinomas can be challenging to pinpoint with imaging alone due to their diffuse nature [5]. Surgical exploration may be necessary for treatment and diagnostic confirmation, especially when tissue biopsy or direct visualisation is essential.

Pathological examination, including immunohistochemistry and molecular profiling, is crucial to establish a more definitive diagnosis and differentiate mesenteric mucinous adenocarcinomas from other types of malignancies, such as those originating from the gastrointestinal tract or ovaries. These assessments help guide treatment options [6].

Given the unclear origins of such tumours, patient management must be individualised. This can involve tailored therapeutic strategies in such a young patient, including surgery or targeted treatments based on the tumour's molecular profile [7]. Furthermore, regular monitoring through follow-up imaging

and laboratory testing is critical to detect any signs of recurrence or metastasis at an early stage [5]. This proactive approach allows for timely intervention.

that individuals understand the potential risks of recurrence and the importance of adhering to surveillance protocols. Patients should be informed about symptoms that might indicate recurrence or complications, empowering them to seek medical advice early.

No conflict of interest

Reference

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