

Ruptured Ovarian Teratoma Presenting as Peritonitis

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ABSTRACT

A 55-year-old lady reported to the surgical OPD with clinical findings of acute peritonitis. Emergency laparotomy was performed. The peritoneal cavity was full of purulent material, however, the gut was normal. An 8x6 cm thick walled cyst was found in the left ovary with a minute perforation and purulent fluid coming out of it. Thorough peritoneal lavage along with left oophorectomy was performed. The postoperative recovery was smooth. Histopathology confirmed benign cystic teratoma of ovary.

Key words: *Peritonitis. Cyst. Peritoneal lavage. Teratoma. Acute abdomen.*

INTRODUCTION

The term 'acute abdomen' encompasses a spectrum of medical and surgical conditions ranging from the trivial to the life-threatening. A careful, methodical approach is necessary in order to arrive at a correct diagnosis of acute abdomen, which comprises almost 50% of non-traumatic emergency admissions in the UK.¹ Acute peritonitis constitutes an important etiology of acute abdomen, not because of its frequency but certainly due to the potentially dangerous nature of this condition that is associated with high mortality if managed inappropriately. The prognosis is grave in elderly patients and requires aggressive and prompt management. The pre-operative assessment of these patients is very essential. Investigations like abdominal ultrasonography carry a prime importance in order to rule out the pelvic pathology. However, these patients usually require emergency laparotomy after adequate resuscitation and time should not be wasted in over-investigating a critically-ill patient.

Reasons for the difficult diagnosis of acute abdomen in the elderly are multi-factorial, and hence the diagnostic accuracy is lower and the mortality far higher in them than in the younger patients. High suspicion, wide differential diagnosis, and more aggressive use of imaging modalities are critical for these patients. In the geriatric population, biliary tract disease accounts for nearly 25% of cases of acute abdominal pain, followed by nonspecific pain, malignancy, bowel obstruction, complicated peptic ulcer disease, and incarcerated hernia. Acute appendicitis, pancreatitis, and diverticulitis

are uncommon but important causes of acute abdomen in the elderly. Abdominal vascular diseases, including abdominal aortic aneurysm and mesenteric ischemia, are a rare but lethal condition in acute abdomen.² In females, causes like torsion or rupture of ovarian cysts should also be considered with priority.

CASE REPORT

A 55-year-old lady presented to the surgical outdoors with two days history of pain in abdomen, anorexia and vomiting accompanied with fever. Initially, the pain was in the central/lower abdomen but later spread to involve the whole of the abdomen. She also had constipation, but was passing some flatus. There was no history of haematuria, burning micturition, vaginal discharge, rectal bleeding or cough.

On examination, she was febrile with tachycardia and a blood pressure of 100/60 mmHg. The abdomen was distended with diffuse guarding. The bowel sounds were sluggish and the rectal examination was unremarkable. The chest and heart were normal. The haemoglobin was 12.3 g/dl and total leucocyte count was $11.6 \times 10^9/L$ with 81% neutrophils. The urinalysis, serum urea/creatinine, serum electrolytes, random blood sugar and the chest radiograph were normal. Abdominal radiograph showed few distended loops of small gut (Figure 1). As the facilities of a radiologist were not available at the peripherally located remote hospital, the essential ultrasound abdomen could not be performed. Considering the history, clinical findings and investigations, a diagnosis of acute peritonitis was made and an emergency laparotomy was contemplated through a midline abdominal incision. A large amount of purulent fluid was found in the peritoneal cavity. The fluid was yellowish in colour and was not foul smelling. Appendix, small gut, large gut, stomach, liver and spleen were normal. In the pelvis, a large 8x6 cm thick walled cyst was found in the left ovary with purulent fluid coming out of a small perforation in its wall (Figure 2).

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Figure 1: Few distended loops of small gut.

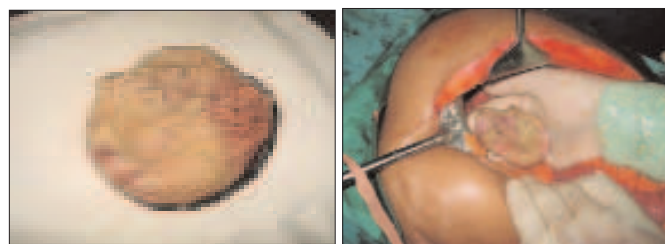


Figure 2: Benign cystic teratoma of the ovary.

Intraoperatively, the gynaecologist was also consulted and the left ovary was excised along with the cyst. The peritoneal cavity was subjected to thorough peritoneal lavage. The right ovary and the uterus were found normal. A drain was placed in the pelvis and the wound was closed, however, the skin was left partially open. Postoperatively, she was kept on injectable cefoperazone and metronidazole. Recovery was smooth and uneventful.

The peritoneal fluid cytology was found predominantly inflammatory consisting of neutrophils and histiocytes without malignant cells. The histopathology of the specimen confirmed benign cystic teratoma of ovary. The sections of the ovary showed a cyst lined by respiratory type epithelium and mature cartilage was also seen in the wall. Thus, the diagnosis was finally made on the histopathology report.

DISCUSSION

Acute abdomen due to acute peritonitis is not only common, it also requires urgent surgical intervention. Acute peritonitis has the usual classical manifestations of tenderness, guarding, rigidity and rebound tenderness. The inflammation of the peritoneum is caused by the bowel contents, bile, blood, urine or pus. In many cases, the definitive diagnosis is made on the operating table. An early exploration can certainly

change the outcome of the disease. In middle aged/ elderly females with acute peritonitis, a gynaecological consultation is also required. A ruptured ovarian cyst or torsion of the ovarian cyst can present as acute peritonitis quite commonly. In female patients with acute abdomen, ultrasound of the abdomen can be extremely helpful in reaching the diagnosis pre-operatively. In this case the non-availability of this facility was a handicap. Interestingly, even per-operatively, it was just a thick walled ovarian cyst with a perforation and leakage of purulent material and thus could not be labelled as a teratoma.

Evaluating an elderly patient who presents with abdominal pain is a difficult challenge. Understanding why elderly patients present differently than their younger counterparts can improve outcomes by minimizing diagnostic errors and delays in treatment. There is commonly delay in diagnosis, delay in treatment and presence of co-morbid diseases. In addition, depressed immunity in aged patients result in a decreased ability to mount a fever, and decreased neural sensitivity, causing reduced sensation of pain, resulting in delay in presentation of abdominal pain.

The cornerstone of diagnosing any condition traditionally lies in a thorough history and physical exam. The white blood count can be normal in an elderly patient with an acute abdomen, but the addition of arterial blood gases and liver function tests can be useful. The addition of computerized tomography as a [routine] test for patients during evaluation has been proven beneficial. One must balance the test with timely, accurate interpretation, and as a potential delay in giving definitive treatment. In retrospective studies, more than one half of older patients presenting to the emergency department with acute abdominal pain required hospital admission, and 20-33% required immediate surgery.³ Surgical intervention occurs twice as often in older patients when compared with a younger population. Overall mortality rates from retrospective series vary from 2-13%.^{4,5} The mortality rate for emergency abdominal surgery is 15-34%, with the primary cause being an underlying or coexisting disease.⁵

Benign (mature) cystic teratoma is a commonly encountered ovarian tumour, constituting 20% of all ovarian tumours in adults and 50% of all ovarian tumours in children.⁶ It presents most commonly during the reproductive years and is bilateral in 8-15% of cases. These tumours are typically (60%) 5-10 cm, though specimens upto 50 cm have been reported. Mature teratomas are generally benign; however, the complications may be torsion (16%), malignant transformation (1-2%), rupture (1-2%) and infection (1%). Some studies have reported rupture in 1.2-3.8% of cases.⁷ Spontaneous rupture of cystic ovarian teratoma is a rare occurrence because of its usually thick capsule. Two clinical presentations are associated

with the intraperitoneal rupture of benign cystic teratomas. The first is acute peritonitis caused by the sudden rupture of the tumour contents, which may occur spontaneously (as in this case) or more commonly in association with torsion, trauma, infection or labour.⁸ The second presentation is chronic granulomatous peritonitis⁶ resulting from a chronically leaking dermoid, which can be characterized by multiple small white peritoneal implants, dense adhesions and variable ascites that simulate carcinomatosis or tuberculous peritonitis. The cases of rupture of benign cystic teratoma with acute peritonitis have a favourable prognosis. They respond well to thorough peritoneal lavage with oophorectomy of the involved ovary, however, in cases of granulomatous peritonitis subsequent adhesions and its sequel may occur. However, these cysts with malignant transformation, which have intraoperative rupture/spillage carry a relatively poor prognosis.⁹ In addition to intraperitoneal rupture, perforation has been documented in the intra-abdominal organs like urinary bladder, rectum, small bowel, sigmoid colon, vagina and even through the abdominal wall.¹⁰

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