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Case report

Complicated abdominal wall hernia mimicking an abdominal wall abscess: A case report [☆]

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ABSTRACT

Abdominal wall hernias are a common imaging finding. Their most common complications include bowel obstruction, incarceration, strangulation and trauma. We report an exceptional case of spigelian hernia in 55 years old women complicated by perforation and massive subcutaneous emphysema which was correctly diagnosed by CT scan. This case showed the interest of CT scan with multiplanar reconstructions in the confirmation of the diagnosis.

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Introduction

Abdominal wall hernias are defined by the occurrence of the hernia sac through preformed or acquired defects or weak areas of the abdominal wall unprotected by muscle or aponeuroses[1]. Their most common complication is strangulation causing acute bowel obstruction [2]. CT scan helps to make the diagnosis in difficult cases and to detect possible complications. We present an unusual and interesting case of a spontaneous abdominal wall hernia perforation presenting as an abdominal wall abscess.

Case report

We report a case of 55 years old women, with history of advanced colic cancer operated several times, with liver, lung and peritoneal metastases under chemotherapy. She was admitted to the emergency department complaining of abdominal pain and fever.

Clinical examination found a slightly tender irreducible mass in the left lumbar quadrant of the abdomen with skin inflammation simulating an abscess. Subcutaneous crepitation over the left hemibody were noted. The lungs were clear to auscultation. The abdomen was soft and non-tender. There were visible scars of previous surgeries on the abdomen.

The patient was referred to our service to undergo a CT scan that showed an abdominal wall defect measuring 2 cm with herniated bowel loops in the left anterior abdominal

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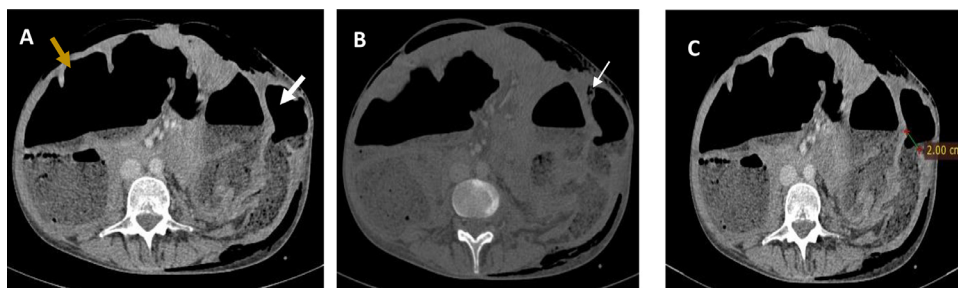


Fig. 1 – (A, B and C) – Axial contrast material enhanced reformatted CT images of the abdomen showed an abdominal wall defect measuring 2 cm with herniated bowel loops in the left anterior abdominal region (white thick arrow). Associated stranding of herniated fat is also seen. Note the bowel wall thickening with pneumatosis intestinalis (thin arrow) and normal mural enhancement of herniated bowel (similar to that of intraabdominal bowel loops).

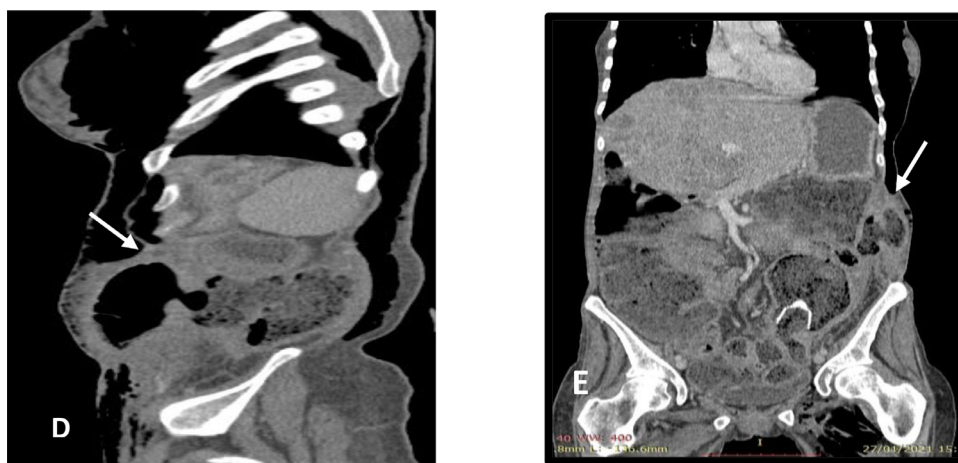


Fig. 2 – Sagittal (D) and Coronal (E) unenhanced reformatted CT image better depicts abdominal wall defect (white arrow).

region. The herniated bowel loop had a thinned wall with parietal pneumatosis and normal mural enhancement. Fat stranding was seen in the hernia [Figure 1 and 2](#). We also noticed a massive subcutaneous emphysema dissecting into the deeper soft tissue and musculature of the left hemibody, extending to the mediastinum whose origin seems to be a perforation of herniated bowel. CT scan found also a large bowel obstruction secondary to recurrent rectal cancer [Figure 3](#). Therefore, immediate surgical exploration was required.

The herniary sac was dissected with emergence of fecal matter and pus, the bowel was well perfused and bowel resection was not necessary. Temporary colostomy was performed and the patient was put on anti-biotics as part of a prophylaxis.

Discussion

Abdominal wall hernias are defined by the occurrence of the hernia sac through preformed or acquired defects or weak areas of the abdominal wall unprotected by muscle or aponeuroses [\[1\]](#).

Abdominal wall hernias include: ventral hernia, inguinal hernia, femoral hernia, incisional hernia, Spigelian hernia, lumbar hernia, crural hernia, and correspond for each of them to a specific anatomic region. Therefore, spigelian hernia also called lateral ventral hernia account for 0.1%-2% of ventral hernias. It is defined by the protrusion of pre peritoneal fat, peritoneal sac or organ through a congenital or acquired defect in the spigelian aponeurosis of anterior abdominal wall [\[2,3\]](#).

However, the development of a hernia is usually multifactorial, and the main factors contributing to their onset are the occurrence of scar abscess, rapid resumption of activities after abdominal surgery, undernutrition and obesity, the presence of cancer and chemotherapy treatment. However, it should be noted that their occurrence can take place many years later.

They are usually asymptomatic, frequently found in imaging and their early diagnosis avoids acute complications. They represent one of the main causes for emergent surgery [\[2\]](#).

The most common complications of abdominal wall hernias include bowel obstruction, incarceration, strangulation and trauma [\[1\]](#).

Clinical diagnosis of abdominal wall hernias is most often easy but can sometimes be uncertain requiring radiological imaging [\[1,3\]](#).

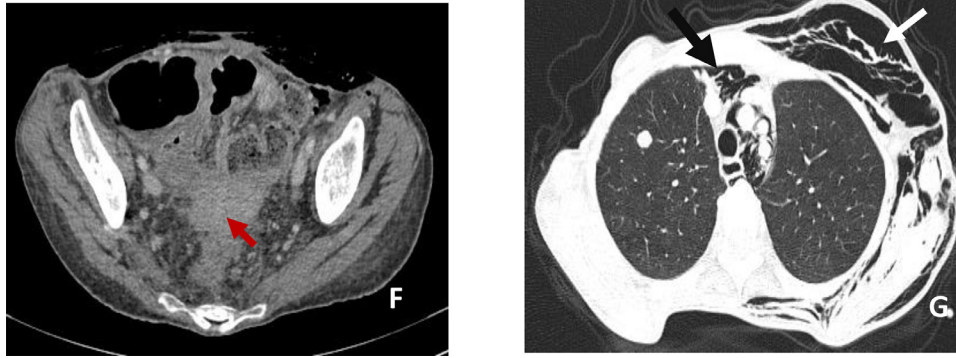


Fig. 3 – (F) – Axial contrast material enhanced reformatted CT image of the abdomen shows dilatation of intraabdominal bowel loops secondary to rectal cancer recurrence (Red arrow. (G) Axial Ct scan image of the chest, lung window, shows: Massive subcutaneous emphysema dissecting into the deeper soft tissue and musculature of the left hemibody (white arrow), extending to the mediastinum (black arrow). We also notice a secondary lung cancer (Color version of the figure is available online.)

Abdominal wall ultrasound performed with high-frequency probes (10 MHz and above) is a valuable tool for the management of patients in whom the clinical diagnosis of abdominal wall hernia is unclear. It allows an accurate study of the abdominal wall and its defects. However, its realization requires more time and good patient cooperation [3].

CT scan with multiplanar reconstructions easily diagnoses the different types of abdominal wall hernia, showing their localization, the size and contents of the peritoneal sac. It also allows distinguishing hernias from differential diagnosis such as tumors, hematomas, abscesses, and aneurysms [2,3].

The excellent visibility of the anatomic detail of the abdominal wall, the short duration of the exam and the 3-dimensional reconstruction give the CT scan a clear superiority for their exploration especially in case of complication [1,2].

Failure of a segment of bowel to enhance with intravenous contrast, bowel wall thickness, the presence of bowel loops, pneumatosis intestinalis, herniated fat stranding and the presence of extraluminal fluid are highly specific of bowel ischemia [1].

The treatment is surgical by laparotomy or coeliotomy. Nowadays, the use of non-absorbable prosthetic materials are widely used in reparative surgery for abdominal wall hernias [2].

Conclusion

Abdominal wall hernia is a common condition of various etiology. It is often complicated by bowel obstruction. Perfora-

tion is an unusual and serious complication that can be life-threatening. Abdominal CT helps making the diagnostic. The treatment is surgical.

Patient consent

Written informed consent for publication was obtained from the patient.

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