

Strangulated hernia: Diagnostic difficulty solved by CT

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A case of a 40 years old multiparous woman, with an incarcerated incisional hernia is presented. The diagnostic difficulty was solved by the use of a computerized tomography (CT) scan.

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I. Introduction

Abdominal ventral hernias are common lesions and are associated with life-threatening complications. Laparoscopic repair of these hernias should be the standard of care as it has reduced the recurrence rate from 25-52% to 3.4-9% (1). A strangulated hernia is an emergency as the risk of mortality is 7 times higher when a hernia operation is carried out in an emergency and 20 times higher if it involves a bowel resection compared to elective repair (2). The open technique is the preferred method in cases of strangulated hernias. The incidence of incisional hernia is highest in those with increased stress on abdominal wall, such as obese women, previous abdominal surgery and pregnancy.

Leiomyoma (fibroids) is a common benign neoplasm of uterine corpus. Myomectomy is the choice of treatment in symptomatic large fibroids in women who want to retain their reproductive function however many cases are treated conservatively. A case of the acute presentation of a strangulated hernia in a woman known to have large fibroids resulting in diagnostic difficulties are presented.

II. Case presentation

40 years old Para 4, with history of 4 previous caesarean sections, a BMI of 35 known case of multiple large fibroids presented to the Women's Hospital emergency at 07:00 hrs. with acute abdominal pain and vomiting since the previous night. The onset was sudden with no precipitating factors. She had several episodes of subacute abdominal pain in the past year which attributed to the fibroids and was relieved by analgesics. This episode the pain was severe and was not relieved by any analgesics, she was unable to tolerate oral intake. There was no significant medical or family history. Her obstetric history included 4 caesarean sections through lower longitudinal abdominal incisions. She was diagnosed to have multiple large fibroids (7×6.4 cm and 6.1×5.8 cm on ultrasound) and was followed in the gynecological clinic for the same over the last year. She was given option of myomectomy and was scheduled for surgery in three months' time. On clinical examination of her abdomen, an infraumbilical vertical midline scar of caesarean section was seen, a large firm mass was felt arising from the pelvis to the umbilicus and there was localized periumbilical tenderness. She was observed in the emergency care unit with parenteral fluids and analgesics but did not respond to intravenous pethidine. She was admitted to the gynecological ward with mild improvement in symptoms and surgical pathology was suspected.

Investigations

Beta hCG was negative, complete white cell count showed leukocytosis with anormal hemoglobin. An abdominal ultrasound was done and a tubular structure infraumbilical left Para midline 5.2×3.4 surrounded by clear fluid collection more on the left side was noted. Another infraumbilical and right Para midline tubular like hypoechoic structures showing internal echoes and motion inside, possibly distended bowel loops. The fibroids were noted as in the earlier scan with calcified rims. Multidetector row Computer Scanning suggested the diagnosis of incarcerated hernia was made clearly differentiating it from the myomatous uterus.

Treatment

Immediate laparotomy was performed and 11 cm of ischemic ileum was resected and a subserosa nodule on the small bowel was resected. A nylon mesh repair of the hernia was performed by an open technique. The histopathology confirmed infarction of the resected segment and the nodule was consistent with pancreatic heterotopia. Her postoperative period was uneventful. She was covered with broad spectrum antibiotics and discharged on seventh day post operatively. The outcome was good and the patient had an uneventful postoperative period.

III. Discussion

A case of a delayed diagnosis of a strangulated incisional hernia that was clarified by the use of a CT scan is presented and the early use of imaging technologies advocated.

Miller and associates reported a case of reducible umbilical hernia with a giant ovarian tumor (3) This is the first report of incisional incarcerated hernia associated with a myomatous uterus. Uludag and associates reported incarceration of an umbilical hernia during pregnancy because of a sessile fibroid (4), and Wong (5) reported a uterine fibroid presenting as an incarcerated umbilical hernia during pregnancy. Small and large bowel are frequently seen but other intraabdominal organs are rarely seen in the sac. In this case the signs were masked due to the fibroid. Common diagnostic tests include ultrasound, CT scan, urine analysis. Watchful waiting is generally not recommended in adults with an umbilical hernia. Increasing sharp abdominal pain and vomiting can mean that a hernia is strangulated. Strangulated hernia requires repair by an open technique reinforcing the abdominal wall with a nylon mesh to reduce the rate of recurrence. A contradictory statements laparoscopic technique of repair is associated with lower incidence of recurrence and less postoperative pain [6]. Abdominal hernias usually do not produce any diagnostic dilemma however in this case the patient had neglected the reducible swelling and had previously a number of symptomatic episodes from multiple fibroids which led to obscure the diagnosis.

IV. Conclusion

Abdominal hernias in adults should not be neglected and prompt repair avoids complications of incarceration which is associated with excessive morbidity and mortality. Expeditious elective repair of the ventral hernias in adults can be performed with minimal complications. The role of imaging modalities is advocated. In the literature there are two randomized controlled trials in which standard practice was compared with early CT within one hour of presentation. It was found that the early CT group had shorter hospital stay and serious diagnosis were missed in the standard group (7). Another study revealed a significant level of confidence in diagnosis made by CT (8). Radiography has been reported to have 69% sensitivity and 57% specificity in the diagnosis of small bowel obstruction (9) CT has the best reported accuracy for the diagnosis of small bowel obstruction with a sensitivity of 94% and specificity of 96% (10). Thus, we advocate early use of CT to speed diagnosis and aid early treatment. This diagnostic modality is used more often by general surgeons and we suggest gynecological admissions would benefit a CT examination rather than the traditional diagnostic laparoscopy.

Learning Points

- 1 Abdominal hernia in adults should be promptly repaired to prevent complications associated with severe morbidity
- 2 Detailed history leads to diagnosis especially when coexisting with other pathology like fibroids
- 3 Expeditious elective repairs of the ventral hernias in adults can be performed with minimal complications.
- 4 Early CT scan helps in early diagnosis and treatment thus expediting treatment leading to speedy recovery and short stay in the hospital.

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