Huge Abdominal Incisional Hernia: A Case Report

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Abstract: Abdominal incisional hernia, an iatrogenic abdominal hernia, is one of the long-term complications of abdominal surgery. Acute incarcerated hernia is a common surgical emergency. In the article, we reported a rare case of huge abdominal incarcerated hernia. Specifically, an elderly female patient complained of reducible mass after abdominal surgery for 30 years, which suddenly became irreducible four days ago, and was treated at the emergency department. Right abdominal incisional hernia accompanied by incarcerated small intestine was indicated by abdominal computed tomography (CT). To the authors’ knowledge, this is the first case report of a patient with huge abdominal incisional hernia.

Key words: Abdominal incisional hernia, complications, abdominal surgery, case report.

1. Introduction

Abdominal incisional hernia presents as a bulge of abdominal organs or tissues to protrude through unhealed fascia or muscle of the abdominal incision. Abdominal incisional hernia is a common complication of abdominal surgery, with an incidence rate of 10% to 20% [1,2]. Clinically, abdominal incisional hernia generally presents as abdominal mass, while emergent treatment is involved in case of incarceration, the majority of which demands surgical intervention. This article reported a case of huge abdominal incarcerated incisional hernia accompanied by necrosis of small intestine.

2. Case Report

A 73-year-old female, who complained of reducible mass after abdominal surgery for 30 years, which suddenly became irreducible four days ago, and was treated at emergency department in our hospital. The right abdominal mass occurred after abdominal exploratory surgery due to abdominal cyst 30 years ago. The mass grew gradually, which was incompletely reducible, however, the patient did not suffer from abdominal pain and did not see a doctor. Four days ago, the abdominal mass was significantly enlarged, with local pain, nausea, vomiting, and venting as well as defecation stopped. On admission, the vital signs were: blood pressure 122/74 mmHg, heart rate 150 beats per minute, oxygen saturation 92.1% on oxygen mask, and respiratory rate 30 breaths per minute. The patient was conscious and with abdominal pain. A 12-cm-long surgical scar was observed in the middle of lower abdomen. In addition, an obvious protruded mass of 30cm×20cm in size was seen in the lower right abdomen, which was soft, and irreducible (Fig. 1). Laboratory testing revealed that the white blood cell count was 10.73 × 109/L and the
neutrophilic granulocyte percentage was 89.9%. Furthermore, abdominal enhanced computed tomography (CT) scan reveals abdominal incisional hernia with incarceration (Fig. 2). Open surgical exploration was conducted in emergency operation room. Tremendous malodorous brown liquid was seen in the abdominal cavity and plenty of necrotic small intestines were observed in the hernia sac intro-operatively (Fig. 3). Hence, partial resection of necrotic small intestine was performed. The patient was sent to Intensive Care Unit (ICU) for continuous symptomatic treatment and returned to ordinary ward 12 days later and discharged 23 days after operation with well-healed wound while without infection. During the one-year follow-up period, intestinal adhesion related bowel obstruction did not occur; neither did the recurrence of incisional hernia.

3. Discussion

Abdominal incisional hernia, an iatrogenic abdominal hernia, is one of common complications of abdominal surgery. Despite of the gradually minimized abdominal incision owing to rapid development in minimally invasive surgery in recent years, the incidence rate of abdominal incisional hernia remains high, due to the expanding surgical scope and increasing proportion of elder patients. The majority of the incisional hernia (66%) occurs within the five years post-operatively, while the remaining (33%) occurs within the 5 to 10 years post-operatively. Multiple factors have an effect on the occurrence of incisional hernia, including old age, being male, obesity, use of hormone, diabetes, unskilled surgical techniques and postoperative infection [3, 4]. In this case, an elderly, fat female was involved, with a 12-cm-long median abdominal incision. The small intestine and omentum majus are the most common organs of incisional hernia, while uncommon organs, such as bladder, colon can also incarcerate through abdominal defect [5-8].

Clinically, abdominal incisional hernia mainly manifested as hernia block protruded when standing, which becomes more obvious when coughing. The hernia ring is generally large, and the hernia block is

Fig. 1  An obvious protruded mass of 30 cm ×20 cm in size was seen in the lower right abdomen.
Fig. 2 Abdominal enhanced computed tomography (CT) scan reveals abdominal incisional hernia with incarceration.

Fig. 3 Plenty of necrotic small intestine was observed in the hernia sac intro-operatively.
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self-repositioned in supine position. In case of large hernia, in which many organs and tissues are protruded, the patient may complain of abdominal pain and discomfort of dragging and crashing down. Due to the large hernia ring, it is uncommon for hernia to become incarcerated or strangulated. Additionally, it is rather easy to diagnose incisional hernia. In rare cases of incisional hernia, uncommon types of incisional hernia can be identified by CT scan, which can further distinguish incisional hernia, tumor, inflammatory disease and hematoma [9]. According to prospective and retrospective studies, 60% of the patients with incisional hernia were lack of symptoms [2, 10]. In addition, as demonstrated by a questionnaire, 23% of the patients with incisional hernia presented no symptoms, over 20% the patients never received surgical repairs and the rate of incisional hernia that became strangulated or incarcerated was only 5% [11].

However, incisional hernia is barely self-healed, the majority of which demands surgical treatment. The aims of surgical intervention in abdominal incisional hernia are to alleviate symptoms of pain and discomfort, to prevent complications of suffocation, respiratory dysfunction and skin problems, as well as to manipulate acute complications of incarceration and strangulation [12]. Emergent treatment is demanded in case of incarcerated abdominal incisional hernia. Manual reposition is adopted within 4 to 8 hours after incarceration of abdominal incisional hernia occurred and 70% of the incarceration of abdominal incisional hernia can be handled with manual reposition. Manual reposition of abdominal incisional hernia can lead to severe complications, such as enterorrhexis, peritonitis, etc. Surgical treatment is immediately required in case of failure in manual reposition of incarcerated abdominal incisional hernia, which includes conventional open surgery and laparoscopic surgery. Laparoscopic surgery has its advantages in treating incarcerated hernia, such as small incision, complete and accurate diagnosis via abdominal exploration, reposition of incarcerated hernial content, reduction of unnecessary bowel resection, radical herniorrhaphy, discovery of other concealed hernia, low recurrence rate of incisional hernia and low rate of incision infection [13]. In this case, the incarcerated abdominal incisional hernia nearly occupied the entire right lower quadrant, hence, laparoscopic exploration was not allowed. Herniorrhaphy is forbidden in case of intestinal strangulation, enterorrhexis and severe infection. High ligation of hernia sac and simple releasing of incarcerated hernia are preferred.

4. Conclusion

It is not rare to find elderly patients harboring incisional hernia postoperatively; therefore, surgeons need higher surgical techniques to prevent incision hernia. The strategy of management of incisional herniadepends on the status of the patient, basic diseases, the size and location of hernia, and whether the incisional hernia is incarcerated or not.

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