

Case Report

Giant umbilical hernia case report and literature review

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ABSTRACT

Umbilical hernia is a defect of the abdominal fascia that allows the protrusion of the intestinal content through the umbilical ring, in adults these hernias are associated with increased intra-abdominal pressure caused by obesity, abdominal distension, and abdominal distension. We presented the clinical case of a 38-year-old female patient who presented a giant umbilical hernia with contents of the transverse colon and necrotic ascending colon, performing abdominal wall plasty with separation of components. Treatment of patients with giant hernias is a challenge. The presence of non-viable bowel should not be considered a contraindication for mesh repair. Giant umbilical hernias are an uncommon pathology which requires knowledge of the different techniques of abdominal wall repair as well as their possible complications.

Keywords: Umilical, Hernia, Surgery, Giant

INTRODUCTION

An umbilical hernia is defined as a primary hernia with the defect located in the midline in the centre of the umbilical ring. Asymptomatic hernias may be present in up to 25 percent of the population when examined by ultrasound imaging so not all require surgical management.¹

Umbilical hernias in adults as compared to children are acquired, these hernias are associated with increased intra-abdominal pressure caused by obesity, abdominal distention, liver cirrhosis, ascites and pregnancy.²

A clinical case of a giant umbilical hernia is presented as well as a review of the literature described on its treatment.

CASE REPORT

A 38-year-old female patient with a history of gastroesophageal reflux disease and chronic gastritis of 10 years of evolution in uncontrolled treatment with proton pump

inhibitor, surgical history of caesarean section 22 years ago and an instrumented uterine curettage 24 hours ago.

She started with the condition 8 years ago with an increase in volume at the level of the umbilical scar, which progressively increased in size, with intermittent abdominal pain of mild intensity, treated with non-steroidal analgesics and maintained this way for 8 years. In the last 15 days the intensity of abdominal pain increased to 10/10 on the analogue pain scale, as well as inability to evacuate, she self-medicated with non-steroidal analgesics without improvement, so she went to the emergency unit of a second level hospital where she was evaluated by the general surgery service, finding in laboratories with leucocytosis of 15,000, neutrophils of 89%, indicating the need for surgical management performing emergency surgery under general anaesthesia, finding umbilical hernia with hernial defect of 15 cm, (Figure 1) hernial sac of 25×25×20 cm with content of ascending colon and transverse colon of necrotic aspect, with 300 cc (Figure 2) of purulent liquid, a right hemicolectomy (Figure 3) with ileotransverse anastomosis terminolateral in two planes is performed. Subsequently,

aponeurosis is incised continuing on the infraumbilical midline and dissection of components is performed to achieve closure of the aponeurosis. Negative pressure drainage is placed and closure is continued by planes up to the skin.

Post-operative antimicrobial treatment was started with ceftriaxone and metronidazole, non-steroidal analgesics and intravenous fluids. She was kept on enteral fasting for 5 days and then enteral diet with liquids was reinitiated, which progresses to a normal diet without complications. The patient was discharged without complications.

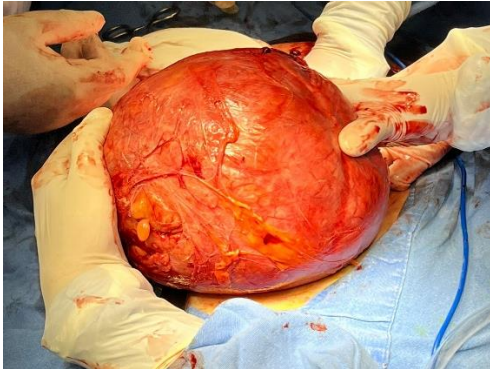


Figure 1: Hernial sac.

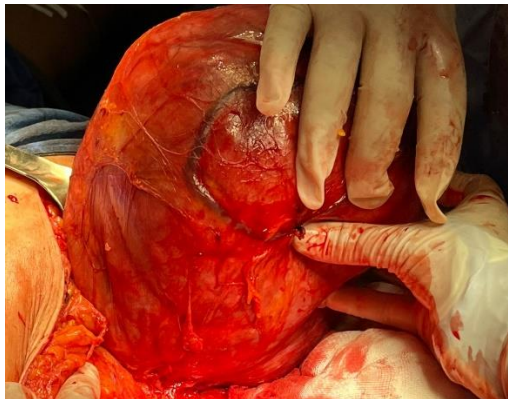


Figure 2: The size of the hernial defect and its sac.



Figure 3: Contents of hernial sac.

DISCUSSION

Umbilical hernia is a disease of high prevalence in the adult population, which has not been studied and evaluated in the literature as much as other abdominal wall hernia defects.

It is one of the most frequent abdominal wall pathologies (2 to 18% of all hernias), with three peaks of incidence: newborns, children under 5 years of age and adults.

Connective tissue disorders, diverticular disease of the colon, obesity, presence of ascites, pregnancy, diastasis recti, African and native American ethnicity and syndromes such as down's and Beckwith-Wiedemann syndromes have been suggested as possible risk factors 3 other patient-related factors such as a diagnosis of diabetes mellitus and having a concurrent hernia, significantly increase the risk of recurrence which supports the hypothesis that abnormal collagen synthesis is both a factor in hernia formation and postoperative recurrence.¹

Diagnosis is possible in most cases by clinical examination. In case of doubt, imaging studies such as ultrasound, CT scan, MRI, plain radiography and herniography can be considered. Ultrasound, computed tomography, magnetic resonance imaging, plain radiography and herniography. Additional imaging has been reported to increase diagnostic accuracy to more than 97%. This also helps to plan surgical management according to the expected contents to be found in the hernia sac.³

Treatment of patients with giant hernias is challenging, as the procedures are of long duration, involve large surface wounds, require the insertion of larger foreign bodies, and require the insertion of larger foreign bodies.

The use of mesh reduces recurrence without significantly increasing the rate of surgical site infection or postoperative pain; therefore, mesh is recommended for umbilical hernia repairs regardless of size, however in a recent rct comparing umbilical hernia repair with mesh versus suture, a secondary outcome was preoperative and postoperative patient-reported quality of life found no significant difference.³

It has been suggested that the use of a mesh repair for incarcerated umbilical hernia is safe. The presence of non-viable bowel should not be considered a contraindication to mesh repair. Wound infection rates are higher after emergency hernia repair, but the clinical consequences are relatively rare, so mesh placement was chosen in this case.³

Regarding the location of mesh placement, the Morpheus study compared an intra-peritoneal patch against the placement of a flat pre-peritoneal low weight polypropylene mesh. It recommends the use of flat low weight polypropylene mesh to reduce the risk of post-operative complications.³

In cases of giant defects it is possible to perform some surgical techniques to perform an adequate closure of the defect and of the abdominal wall with good aesthetic results, such as dermal grafts, fascia lata grafts and vascularized grafts based on the thigh muscles which have been used for a long time. Recently, the de-epithelialized dermal flap technique has been described which uses local skin and avoids the need to operate on two different sites in one patient.⁴

In addition there are pre-surgical techniques such as the use of botulinum toxin that allows the reconstruction of the midline dividing the musculature or aponeurosis in the lateral abdominal wall, i.e.; botulinum toxin favors the closure of the aponeurosis without requiring separation of components so it is possible to place prosthetic mesh.⁴

In these cases the problem is not in the closure of the aponeurosis but in the elimination of the excess skin and achieving a satisfactory aesthetic effect. The lazy-m and inverted omega flaps described have been described as offering a simple, easy to plan and easy to use technique with a predictable esthetic result.⁵

In some patients the repair of the umbilical defect may be associated with abdominoplasty, especially in those patients with abundant adipose tissue, which would result in a significant dead space that could lead to complications. Currently there is no consensus on the abdominal abdominoplasty techniques associated with umbilical defect repair and more prospective studies are needed to support the use of these techniques as well as the risk of complications associated with them.⁶

The most frequent complications reported in large centers include seroma, hematoma and other complications such as urinary retention, ileus, site discomfort or pain without infection as well as hospitalization related to patient comorbidity.⁶ Studies in specialized hernia centers with comorbid patients showed that the main risk factor for recurrence is the size of the defect, being greater in those larger than 4 cm.⁶

CONCLUSION

Umbilical hernias are a fairly common pathology of the abdominal wall since they can occur at any time of life, and there are currently different guidelines from

international associations on their management; however, there is little information published on the surgical management of giant hernias, which most of the time compromise the anatomical distribution of the abdominal wall and abdominal viscerae, which can lead to postsurgical complications that require multiple subsequent interventions. The management of these hernia requires training and extensive knowledge of the anatomy of the abdominal wall as well as the reconstruction techniques that allow a result with minimal recurrence of the hernia and minimal complications of the intra-abdominal organs and of the abdominal wall.

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REFERENCES

1. Mannion J, Hamed MK, Negi R, Johnston A, Bucholc M, Sugrue M. Umbilical hernia repair and recurrence: need for a clinical trial? *BMC Surg.* 2021;21(1):365.
2. Person H, Mojallal A, Braye F, Shipkov H. Techniques of Concomitant Abdominoplasty and Umbilical Hernia Repair: A Review. *Aesthet Surg J.* 2021;41(7):831-9.
3. Henriksen NA, Montgomery A, Kaufmann R, Berrevoet F, East B, Fischer J, et al. Guidelines for treatment of umbilical and epigastric hernias from the European Hernia Society and Americas Hernia Society. *Br J Surg.* 2020;107(3):171-90.
4. Villamil V, Vallejo OG, Morote JMS, Bermejo JPH. Giant umbilical hernia: "Lazy M-Omega" flap, a case report. *Pan Afr Med J.* 2021;38:338.
5. Legbo JN, Legbo JF. Abdominal Wall Reconstruction Using De-epithelialized Dermal Flap: A New Technique. *J Surg Tech Case Rep.* 2010;2(1):3-7.
6. Tao Z, Ordonez J, Huerta S. Hernia Size and Mesh Placement in Primary Umbilical Hernia Repair. *Am Surg.* 2021;87(6):1005-13.

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