International Surgery Journal
Vagholkar K et al. Int Surg J. 2019 Sep;6(9):3371-3374
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20193649

Case Report

Colonic incarceration in an adult umbilical hernia: case report and review of literature

Ketan Vagholkar*, Nitu Joy, Shantanu Chandrashekhar, Pooja Rao, Dhairya Chitalia, Anmol Sahoo

Department of Surgery, D.Y. Patil University School of Medicine, Navi Mumbai, Maharashtra, India

Received: 20 July 2019
Accepted: 06 August 2019

***Correspondence:**
Dr. Ketan Vagholkar,
E-mail: kvagholkar@yahoo.com

ABSTRACT

Umbilical hernia is one of the commonest ventral hernias constituting ten percent of all hernias. It affects obese individuals and has a high recurrence rate if repaired by suture techniques. Incarceration of the colon in an umbilical hernia is quite rare. A case of colonic incarceration in an umbilical hernia is presented to highlight the diagnostic and technical challenges in managing such a hernia. Contrast enhanced computerized tomography is essential to ascertain the contents. Open surgery is the main stay of treatment especially in such rare cases. A combined tissue and mesh repair provides excellent results.

Keywords: Umbilical hernia, Adult, Treatment, Complications

INTRODUCTION

Umbilical hernias comprise 10 percent of all hernias.[1] Umbilical hernias are more common in women.[1] Abdominal discomfort and swelling at the umbilicus are the usual symptoms of an umbilical hernia. If incarcerated, the hernia increases in size and becomes symptomatic. This is followed by an increase in the volume of the contents which may range from omentum to small intestine. Presence of transverse colon in an umbilical hernia sac is extremely rare.[2] A case of irreducible umbilical hernia containing the transverse colon is presented with a view to highlight the surgical challenges in managing such a case.

CASE REPORT

A 42 year old lady presented with abdominal discomfort accompanied with swelling at the umbilicus. Over a period of time it became irreducible. The patient complained of vague symptoms, which she attributed to acid peptic disease and sought treatment for the same. On examination, vital parameters were within the normal limits. Physical examination of the abdomen revealed an irreducible umbilical hernia, measuring 10 cm in diameter with stretching of the umbilical skin. Contrast enhanced computerized tomography (CECT) was done which revealed an incarcerated umbilical hernia with the transverse colon and omentum as the content (Figure 1). The patient underwent open surgery for the same. Elliptical incision which included the umbilicus was made as the umbilical skin was thinned out. The sac was identified and dissected all around till the neck was reached (Figure 2). The sac was then opened. The contents were transverse colon and omentum (Figure 3). Extensive adhesions were found between the transverse colon and the sac. These adhesions were separated and the colon was reposited back into the peritoneal cavity. The defect was delineated (Figure 4). The redundant part of the sac was excised and the sac closed with No. 1-0 vicryl (Figure 5). Two vertical incisions, one on either side of the midline were made approximately 1.5 cm from the midline extending 5 cm above and below the

defect. Flaps were created from the medial edges of the anterior rectus sheath. Retro rectus space was created on either side. The edges of the medial flaps were approximated with continuous No.1 polypropylene suture (Figure 6). This created a new midline. A polypropylene mesh was placed covering the midline extending laterally on either side into the retro rectus space and fixed with 2-0 propylene sutures (Figure 7). The lateral flaps of the anterior rectus sheath were approximated with No. 1 polypropylene sutures (Figure 8). Subcutaneous tissues were approximated with 1-0 vicryl and skin with staples. Staple removal was done on day 10 with complete recovery. The patient has been following up for the last six months with no recurrence.

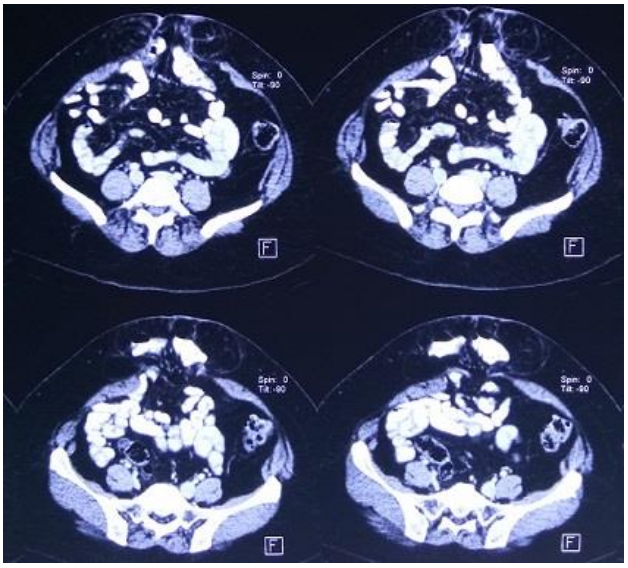

Figure 1: CECT showing transverse colon in the hernia sac.

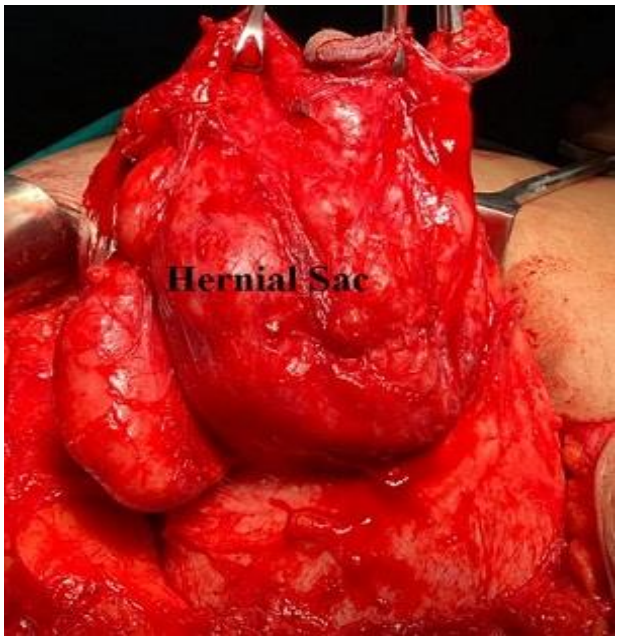

Figure 2: Hernia sac dissected till the neck.

Figure 3: Opened sac showing transverse colon and omentum.

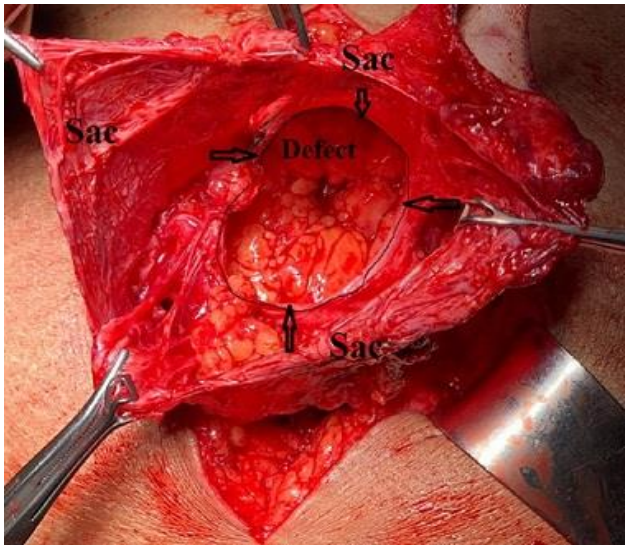

Figure 4: Defect delineated after contents reposited.

Figure 5: Sac trimmed and closed.

Figure 6: New midline created by approximation of the medial flaps.

Figure 7: Mesh place over the new midline extending laterally into the retro rectus space.

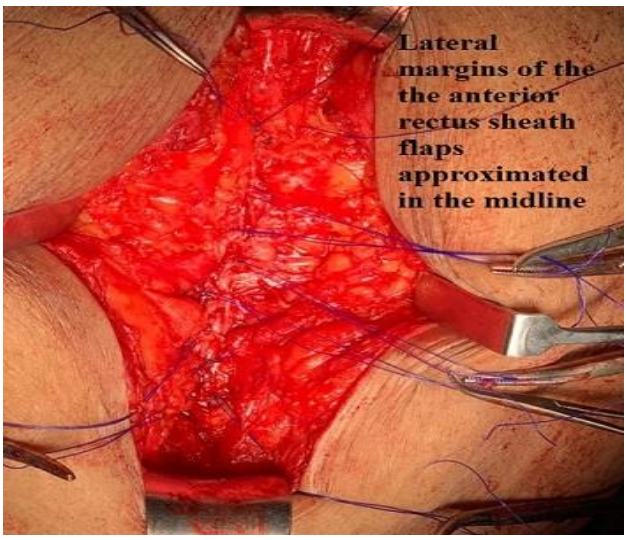

Figure 8: Lateral edges of the anterior rectus sheath approximated.

DISCUSSION

The European Hernia Society defines midline hernias from 3 cm above to 3 cm below the umbilicus as umbilical hernia.[1] The borders of the umbilical canal are umbilical fascia posteriorly, linea alba anteriorly and the medial edges of the two rectus sheaths on either side. Herniation occurs due to increased intraabdominal pressure the etiology of which may range from obesity to abdominal tumors.

The pathology is initiated by herniation of the preperitoneal fat followed by formation of a well-defined hernia sac. As the defect increases in dimensions, the sac also increases in size with the addition of more contents such as omentum and small intestine.[2,3] Large intestine is rarely involved in such hernias. But, if present, it may pose a surgical challenge. It is always advisable to operate upon such cases at the earliest. Both laparoscopic and open methods have been described.[3-5] Laparoscopic approach is best suited for completely reducible hernias, or, for hernias which are partially reducible on physical examination. Completely irreducible hernias containing the colon are best suited for open surgery as adhesiolysis can safely be performed without causing any damage to the colon. In the case presented, a CECT was done, which showed an incarcerated transverse colon.[6-8] Open approach enabled a safe adhesiolysis followed by a good delineation of the defect. It also facilitated safe adhesiolysis of the viscera adherent to the borders of the defect from within.[9,10] Dissection and approximation of flaps from the anterior rectus sheath can be facilitated by an open approach. This technique helps in creating a new fascial midline thereby restoring the normal integrity of the anterior abdominal wall. Reinforcement of the newly created midline to ensure a strong barrier is done. Placement of a mesh is essential in umbilical hernia repair.[11,12] Suture techniques such as primary suturing or Mayo's repair have a high incidence of recurrence. This is best provided by placing a mesh on the newly created midline extending laterally into the retro rectus space.[12] This provides a twofold advantage viz. migration and infection of the mesh are prevented as the mesh lies sandwiched between the two aponeurotic layers.[12] The operative technique described in the case report therefore, provides a three layered protection over the defect, thereby reducing the recurrence rate to a bare minimum.

CONCLUSION

Incarceration of a colon in an umbilical hernia is extremely rare. CECT is essential to establish the contents of the sac. Open mesh repair is the mainstay treatment for irreducible umbilical hernia with colon as its content. Recurrence rate with this technique is extremely less thereby making it a safe surgical option for repair for complex umbilical hernia.

ACKNOWLEDGEMENTS

The authors would like to thank the Dean of D.Y. Patil University School of Medicine for permitting publication of this case report. The authors would like to thank Parth Vagholkar for his help in editing the photographs.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Dabbas N, Adams K, Pearson K, Royle G. Frequency of abdominal wall hernias: is classical teaching out of date? JRSM Short Rep. 2001;2:5.
2. Vagholkar K, Pawanarkar A, Vagholkar S, Iyengar M, Pathan K. Unusual encounters in a hernia sac. Int J Res Med Sci. 2016;4:1728-9.
3. Courtney CA, Lee AC, Wilson C, O'Dwyer PJ. Ventral hernia repair: a study of current practice. Hernia. 2003;7:44-6.
4. Aslani N, Brown CJ. Does mesh offer an advantage over tissue in the open repair of umbilical hernias? A systematic review and meta-analysis. Hernia. 2010;14:455-62.
5. Nguyen NT, Lee SL, Mayer KL, Furdui GL, Ho HS. Laparoscopic umbilical herniorrhaphy. J Laparoendosc Adv Surg Tech A. 2000;10:151-3.
6. Vagholkar K, Budhkar A, Gulati J. Right Subcostal Incisional Hernia: A Surgical Challenge. JMSCR. 2014;2(10):2625-30.
7. Cassie S, Okrainec A, Saleh F, Quereshy FS, Jackson TD. Laparoscopic versus open elective repair of primary umbilical hernias: short-term outcomes from the American College of Surgeons National Surgery Quality Improvement Program. Surg Endosc. 2014;28:741-6.
8. Vagholkar K, Vagholkar S. Novel Technique Combining Tissue and Mesh Repair for Umbilical Hernia in Adults. Surgical Sci. 2014;5:369-75.
9. Vagholkar K, Budhkar A. Combined Tissue and Mesh Repair for Midline Incisional Hernia. (A study of 15 cases) JMSCR. 2014;2(8):1890-900.
10. Berrevoet F, D'Hont F, Rogiers X, Troisi R, de Hemptinne B. Open intraperitoneal versus retromuscular mesh repair for umbilical hernias less than 3 cm diameter. Am J Surg. 2011;201:85-90.
11. Vagholkar K, Pawanarkar A, Vagholkar S, Iyengar M, Pathan S. Incarcerated umbilical port site hernia. Int Surg J. 2016;3:1009-11.
12. Vagholkar K, Pawanarkar A, Vagholkar S, Iyengar M, Pathan S. Hernia mesh infection: a surgical disaster. Int Surg J. 2016;3:950-3.

Cite this article as: Vagholkar K, Joy N, Chandrashekhar S, Rao P, Chitalia D, Sahoo A. Colonic incarceration in an adult umbilical hernia: case report and review of literature. Int Surg J 2019;6:3371-4.