Uncommon Presentations of Umbilical Swelling Across Different Age Groups – A Single Institution Case Series

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Umbilical hernia occurs due to bulge of the intra-abdominal structures through a defect in the abdominal wall around the umbilicus. Umbilical hernia is a ventral hernia with umbilicus as its centre. Umbilical hernia repair is one of the common surgeries performed routinely for umbilical and para umbilical hernia. Of all the repairs for umbilical hernia, On-lay mesh repair is most commonly performed in adults in our centre.

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Umbilical hernia occurs due to bulge of the intra-abdominal structures through a defect in the abdominal wall around the umbilicus. Umbilical hernia is a ventral hernia with umbilicus as its centre. Umbilical hernia repair is one of the common surgeries performed routinely for umbilical and para umbilical hernia. Of all the repairs for umbilical hernia, On-lay mesh repair is most commonly performed in adults in our centre.

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I. INTRODUCTION

Umbilical Hernia can occur at any age. In New-born's it is called exomphalos, usually associated with weakness of abdominal musculature. In infants and children it occurs due to Umbilical sepsis which weakens the umbilical scar. In adults it is not true Umbilical hernia, it is a Para umbilical hernia that occurs either above, below or to the side of the Umbilicus through linea Alba.

In about 90% of cases, increased intra- abdominal pressure is the main reason for umbilical hernia. There are many risk factors like weight lifting, older age, multiparous women, older age, malignancy, chronic cough, bronchial asthma, chronic lung conditions, ascites, prostatism, obesity and chronic use of steroids [1,2].

The hernia sac may contain omentum, colon, and small bowel. Umbilical hernias can also progress to incarceration due to comparatively small fascial defect size to that of large sac and also can be due too mental or bowel adhesions to the hernia sac [3]. Diagnosis can be made by proper history taking and physical examination and with the help of ultrasound to know the defect size, contents and to rule out obstruction.

AIM: The aim of this case series is to emphasise and discuss umbilical swelling presenting across different age groups coexisting with other diseases or presenting with complications and management of umbilical hernia under given circumstances.

CASE 1

A 58year old male patient came with complaints of swelling in the umbilical region for 15 years associated with pain for 1 year.

On examination: A swelling of 5*4 cms was present over the umbilicus (Figure1.1) which was smooth with well-defined borders. Additionally there was another swelling of 6*5cms was palpable in left lumbar region which was smooth with ill-defined margins. Cough impulse was present and the swelling was reducible manually for both the swellings.

Investigations: USG abdomen revealed a defect of approximately 2.6 cms in umbilical region with bowel and omentum as its content. The other findings were a cystic collection of 10*8.2cm in left lumbar region and cholelithiasis. Contrast

enhanced CT scan was done to obtain further information on the suspicious cystic lesion which revealed mesenteric cyst of 10.5*7*9 cms adjacent to third part of duodenum.

Patient was planned on mesenteric cyst excision with umbilical Hernioplasty. Intraoperatively a cyst of 10.5*7*9 cms was found loosely adhered to the mesentery, cyst was excised in Toto and was sent for HPE and On-lay mesh repair was done for umbilical hernia.

Postoperative period was uneventful and as patient's general condition improved he was discharged on post-operative day 7.

Histopathology: reports confirmed the mesenteric cyst.

Figure 1.1

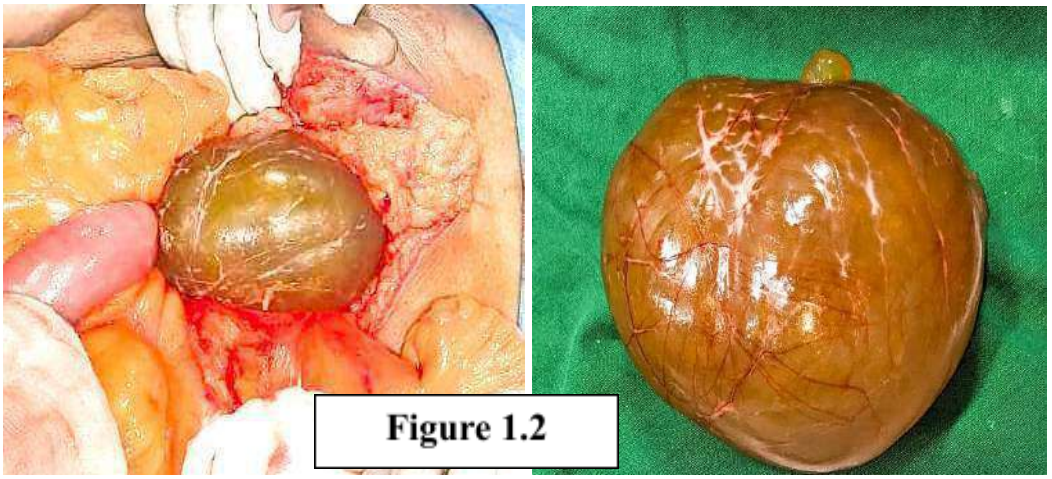

Figure 1.2

CASE 2

A 48 years old male patients came with complaints of swelling and pain in the umbilical region for 6 months followed by increase in intensity of pain and vomiting for 1 day and obstipation for 1 day.

On examination: The abdomen was distended, tense and a swelling around the umbilicus of 3*3 cms noted (Figure 1.3) which was tender, warm and irreducible manually and spontaneously.

Investigations: The ultrasound abdomen revealed a defect measuring 2 cms in the umbilical region

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with bowel as its content; the herniated bowel loop was dilated with peri enteric fluid collection noted. Since the physical examination and ultrasound abdomen pointed towards the Strangulation contents of umbilical hernia, patient was taken up for emergency exploratory laparotomy with defect closed with modified Smead Jones technique and On-Lay mesh repair.

Intraoperatively jejunal loop approximately 4 cm was found to be the content and since it was viable the contents were pushed in and On-lay mesh repair was done. Postoperative period was uneventful and as patient's general condition improved he was discharged on post-operative day 7.

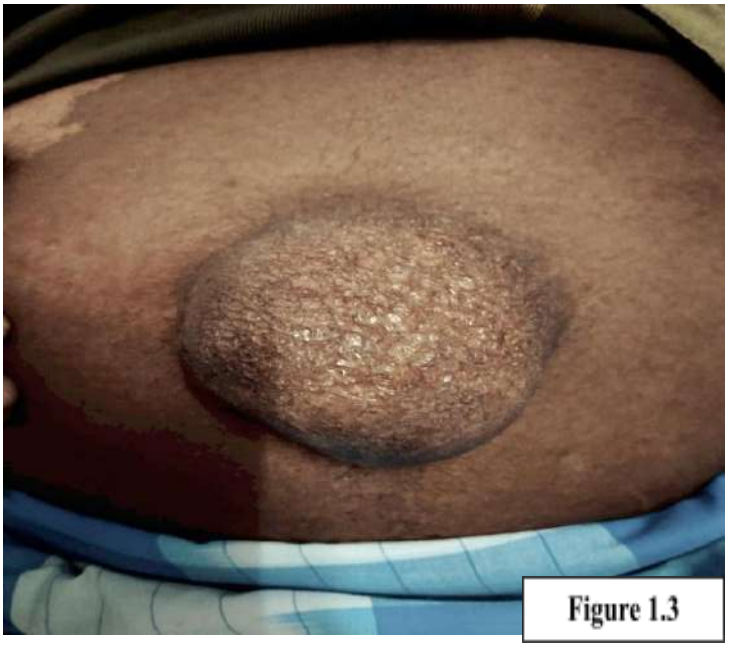

Figure 1.3

CASE 3

A 2 year old male child was brought by his parents with complaints of swelling over the umbilicus since birth, non-progressive in nature, associated with increased in size while coughing / crying and size decrease on lying down.

On examination: A swelling of 2*3cms present over the umbilical region (Figure1.4), reducible manually; cough impulse could not be elicited.

Investigations: USG abdomen revealed a defect of 3*3cms in infraumbilical region with omentum as its content.

Anatomical repair was done by reducing the sac and trimming off excessive sac and rectus was closed vertically with modified Smead Jones technique, post-operative period was uneventful and the child was started on adequate analgesics and antibiotics. As the general condition of the child was improved he was discharged on Post-operative day 5.

Figure 1.4

CASE 4

A female patient of 26 years old was admitted with history of pain abdomen on and off for 1 month, vomiting on and off 2 episodes per day for 5 days bilious in nature.

On examination: A swelling of 2*3cms present in infraumbilical region, manually reducible and cough impulse present. Borders are well defined; surface is smooth with soft in consistency.

Investigation: USG abdomen revealed a defect of 2*2 cms in infraumbilical region and cholelithiasis.

Laparoscopic cholecystectomy was done to begin with. Infraumbilical 10mm port was inserted via open method. After Cholecystectomy and active evacuation of pneumoperitoneum anatomical repair for umbilical hernia was done. Postoperatively period was uneventful. Adequate IV analgesics and antibiotics were given. As her general condition improved patient was discharged on Post-operative day 5.

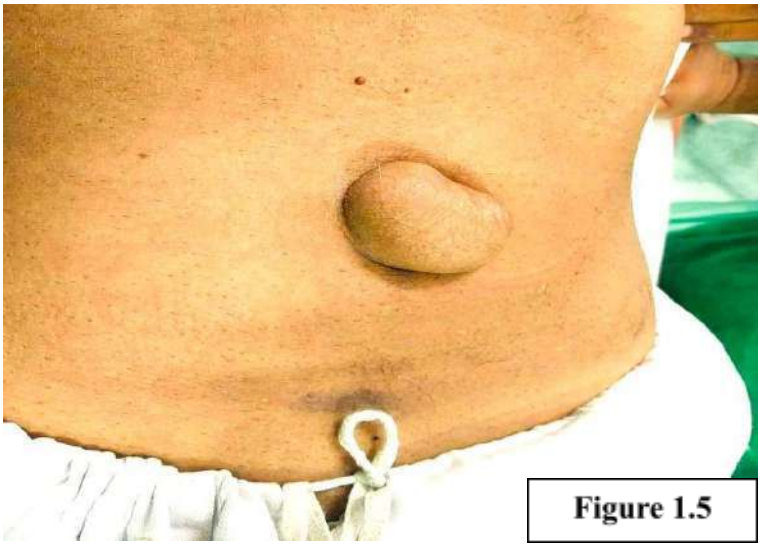

Figure 1.5

II. DISCUSSION

The incidence of umbilical hernias in adult's ranges from 10% to 25% [4]. Women is affected 3 to 5 times more frequently than men [5]. Most of these hernias are smaller than 5cm in diameter but can also present with fascial defect of 10 to 15 cm. Most often these hernia sacs contain small bowel, omentum or colon. In one of the study it was described that the presence of either omentum alone or omentum with large or small bowel was seen in 60% of patients and large bowel alone and small bowel alone was found in 7% and 4% patients respectively [6]. In one of the cases discussed above umbilical hernia presented with mesenteric cyst which is rare.

The Incidence of mesenteric cyst varies from 1 per 100,000 to 250,000 admissions [7]. However it was found incidentally while evaluating for umbilical hernia. In the other case the patient presented with umbilical hernia which progressed to obstruction. Umbilical hernia strangulation is a most serious complication that occurs if loop of small bowel is its content and they present with irreducible, painful umbilical swelling with skin changes over the swelling and along with signs of intestinal obstruction.

In these cases umbilical hernia repair is done but however resection of bowel is decided intraoperatively depending on its viability. Umbilical hernia can occur in infants and is more common (6 to 10 times) in black infants and low birth weight female infants and around 60-80% premature infants also present with umbilical hernia [8].

Umbilical Hernia repair of the infants have low rate of complications, so the repair is usually postponed, more over spontaneous closure of majority of umbilical hernias occurs within 2 years [8].

In few of the studies it is recommended that any umbilical defects of 1.5 cm or more in children of 2 years of age and above, hernia repair can be done because there is minimal chance of spontaneous closure [10, 11].

More often patients with umbilical hernia can present with coexisting cholelithiasis, Prevalence of umbilical hernia with cholelithiasis is 10.5% [12-14]. The common risk factor that links both the condition is obesity. Nowadays both umbilical hernia repair and laparoscopic cholecystectomy are done simultaneously.

Although Para-umbilical hernia repair done along with laparoscopic cholecystectomy can take longer time for surgery, and risk of increased blood loss. It has advantages of single hospital stay, single anaesthesia exposure, easy return to work, and cost effective for the patient.

III. CONCLUSION

An umbilical or Para umbilical swelling presented umbilical hernia should be ruled our first following other differential diagnosis like Mesenteric cyst.

Repair in umbilical hernia should be considered at the time of presentation, if untreated it can produce life threatening consequences like strangulation, incarceration or spontaneous rupture. Surgery is advised only for symptomatic patients and the standard treatment for umbilical hernia in adults is mesh repair.

After repair the prognosis is usually good, however it can recur. Even after elective umbilical hernia repair in patients with type II diabetes, hyperlipidaemia, and in retroviral positive patients there are high chances of recurrence. The increased rates of recurrence in patients are associated with BMI>30 kg/m², poor wound healing, repeated wound infection and uncontrolled Type II Diabetes.

Umbilical hernias can occur again more commonly in patients who fail to modify their life style.

REFERENCES

1. Muysoms F, Campanelli G, Champault GG, DeBeaux AC, Dietz UA, Jeekel J, Klinge U, Köckerling F, Mandala V, Montgomery A, Morales Conde S, Puppe F, Simmermacher RK, Śmietański M, Miserez M. EuraHS: the

development of an international online platform for registration and outcome measurement of ventral abdominal wall hernia repair. Hernia. 2012 Jun;16(3):239-50. doi: 10.1007/s10029-012-0912-7. Epub 2012 Apr 18. PMID: 22527930; PMCID: PMC3360 853.
2. Norman S. Williams, Christopher J.K. Bulstrode and P.Ronan O'connel. Bailey and Love's short practice of surgery. 26th edition 2013: pg 948-69.
3. Richard H. Turnage, Brian Badgwell, Mark A. Malangoni and Michael J. Rosen. Sabiston text book of surgery.19th edition 2012: pg 1093-1095, pg1115- 1135.
4. Maia R, Salgaonkar H, Lomanto D, Loo L. Umbilical hernia: when and how. Annals of Laparoscopic and Endoscopic Surgery. 2019;4:37.
5. Snyder CL. Current management of umbilical abnormalities and related anomalies. Semin Pediatr Surg. 2007 Feb;16(1):41-9. doi:10. 1053/j.sempedsurg.2006.10.006. PMID:17210 482.
6. Baccari EM, Breiling B, Organ CH Jr. A study of the maturity onset of adult umbilical hernia. Am Surg. 1971 Jun;37(6):385-8. PMID: 5578532.
7. Liew SC, Glenn DC, Storey DW. Mesenteric cyst. Aust N Z J Surg. 1994 Nov;64(11):741-4. doi:10.1111/j.1445-2197.1994.tb04530.x.PMID :7945079.
8. Nmadu PT. Paediatric external abdominal hernias in Zaria, Nigeria. Ann Trop Paediatr. 1995;15(1):85-8. doi: 10.1080/02724936.19 95.11747753. PMID: 7598442.
9. HEIFETZ CJ, BILSEL ZT, GAUS WW. Observations on the disappearance of umbilical hernias of infancy and childhood. Surg Gynecol Obstet. 1963 Apr;116:469-73. PMID: 13953353.
10. Walker SH. The natural history of umbilical hernia. A six-year follow up of 314 Negro children with this defect. Clin Pediatr (Phila). 1967 Jan;6(1):29-32. doi: 10.1177/00099228 6700600109. PMID: 6016190.
11. Haller JA Jr, Morgan WW Jr, White JJ, Stumbaugh S. Repair of umbilical hernias in childhood to prevent adult incarceration. Am Surg. 1971 Apr;37(4):245-6. PMID: 5580270.
12. Kamer E, Unalp HR, Derici H, Tansug T, Onal MA. Laparoscopic cholecystectomy accompanied by simultaneous umbilical hernia repair: a retrospective study. J Postgrad Med. 2007 Jul-Sep; 53(3):176-80. doi:10.4103/00 22-3859.33859. PMID:17699 991.
13. Asolati M, Huerta S, Sarosi G, Harmon R, Bell C, Anthony T. Predictors of recurrence in veteran patients with umbilical hernia: single center experience. Am J Surg. 2006 Nov; 192(5): 627-30. doi:10.1016/j.amjsurg.2006. 08.022. PMID:17071196.
14. Schumacher OP, Peiper C, Lörken M, Schumpelick V. Langzeitergebnisse der Nabelhernienreparation nach Spitzy [Long-term results after Spitzy's umbilical hernia repair]. Chirurg. 2003 Jan;74(1):50-4. German. doi:10.1007/s00104-002-0536-z. PMID:12552405.