

# A study on clinical presentation of umbilical and paraumbilical hernia in adults

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## Abstract

**Background:** To study clinical presentation of umbilical and paraumbilical hernia in adults.

**Materials & methods:** A total of 150 subjects were enrolled. The age group included was 26- 50 years. 100 subjects were female and 50 were male. Complete medical history was taken. Patients with umbilical and paraumbilical hernia were taken under consideration. Data was collected and analysed. Results were assessed using SPSS software.

**Results:** A total of 150 patients were enrolled. Clinically, the sites of hernia studied were the umbilical and paraumbilical hernia. The most common is the paraumbilical with frequency of 98 (65.4%) and umbilical hernia with 52 (34.7%). The size of hernia was small with 112 and moderate or huge with 38 cases.

**Conclusion:** From the above results, the authors conclude that small Paraumbilical hernia are more common in comparison to umbilical hernia.

**Keywords:** umbilical, paraumbilical hernia, adults.

## INTRODUCTION

An umbilical hernia is defined as a midline hernia located at or near the umbilicus. 1 Umbilicus is a frequent site of hernia because it represents a natural weak spot of the abdominal wall, being the attachment site of the umbilical cord during the fetal period. The literature on umbilical hernias in adults remains less extensive compared to other types of hernias. In fact, in adults, groin hernias are more frequent, since umbilical hernias are more studied in children. The risk of strangulation is important, estimated at up to 17% in umbilical hernias, up to three times higher than in femoral hernia. 2

Umbilical hernias occur more often above or below the umbilicus rather than directly through the umbilicus.3 This is why, according to the classification of the European Hernia Society, hernias whose rings are located between 3 cm on either side of the umbilicus on the linea alba, are considered as umbilical hernias.4Adult umbilical hernias are frequently asymptomatic. The most frequent reasons for consultation are intermittent pain and esthetic discomfort when the size is important.

Palpation helps assess the size of the neck and the reducibility of the hernia. When there is a complication, the abdominal pain is constant. The main complication is strangulation (occurrence of ischemia due to a compromised blood supply). In most cases, patients with a strangulated hernia have previously experienced incarceration seizures with spontaneous reduction. On physical examination, palpation reveals an irreducible and painful umbilical swelling. It shows a strangulated umbilical hernia with irreducible swelling. When the small intestines are in the hernia sac, signs of intestinal obstruction appear (vomiting, lack of gas or stool). Another complication that can occur is loss of domain. It represents a chronic large irreducible hernia reducing the volume of the abdominal cavity and creating a "second abdomen". 5

Umbilical hernia (UH) and paraumbilical hernia (PUH) are ventral herniae that occur in the region of the umbilicus or around the umbilicus. 6 UH accounts for 10% of abdominal herniae. 7 UH occurs in infants and children, while PUH occurs in adults.

UH rarely occurs in adult patients with ascites, obesity, and massive abdominal distention from various causes. There are advantages to the management of UH and PUH using meshes. 8 Hence, this study was conducted to show the clinical presentation of umbilical and paraumbilical hernia in adults.

## Materials & methods

A total of 150 subjects were enrolled. The age group included was 26- 50 years. 100 subjects were female and 50 were male. Complete medical history was taken. Patients with umbilical and paraumbilical hernia were taken under consideration. Physical examination was done and size of hernia was measured and classified as small, moderate or huge. Complete investigations were done. Data was collected and analysed. Results were assessed using SPSS software.

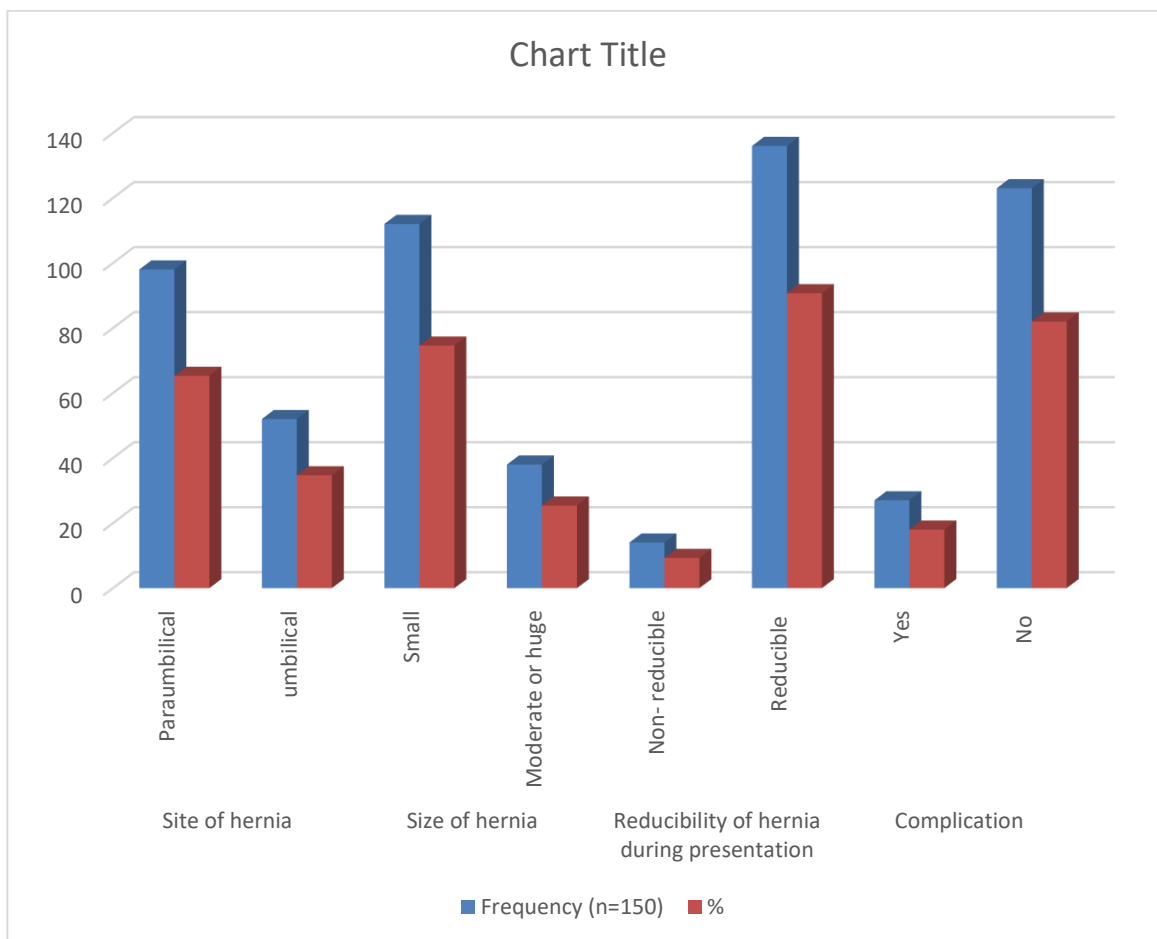
## Results

A total of 150 patients were enrolled. Clinically, the sites of hernia studied were the umbilical and paraumbilical hernia. The most common is the paraumbilical with frequency of 98 (65.4%) and umbilical hernia with 52 (34.7%). The size of hernia was small with 112 and moderate or huge with 38 cases. Reducibility of hernia during presentation as non-reducible were 9.3% and reducible were 90.7%. The number of cases with complications were around 18%.

Table 1: characters of hernia

| Parameters                                 |                  | Frequency (n=150) | %    |
|--|------------------|-------------------|------|
| Site of hernia                             | Paraumbilical    | 98                | 65.3 |
|  | umbilical        | 52                | 34.7 |
| Size of hernia                             | Small            | 112               | 74.6 |
|  | Moderate or huge | 38                | 25.4 |
| Reducibility of hernia during presentation | Non- reducible   | 14                | 9.3  |
|  | Reducible        | 136               | 90.7 |
| Complication                               | Yes              | 27                | 18   |
|  | No               | 123               | 82   |

Graph 1: Characters of hernia



## Discussion

It is estimated that every year, 20 million abdominal wall hernias surgeries are performed worldwide. 9 Umbilical hernia is the second most frequent type of hernia and accounts for 6–14% of all abdominal wall hernias in adults, after inguinal hernias. It is a very common condition in children, occurring in one of every six children. 10 It represents an important part in the practice of pediatric surgeons, especially in sub-Saharan Africa. 11 However, in adults, nearly 90% of umbilical hernias are acquired with no indication of hernia in childhood. 12 The risk factors are the same as for other abdominal wall hernias and are caused predominantly by intra-abdominal hyper pressure and/or parietal weakness. The repetitive action on the abdominal wall due to increased intraabdominal pressure favor microscopic tears of tissue. This will lead in time to hernia formation. The risk factors are physical labor, obesity, ascites, constipation, pregnancies, excessive coughing, or dysuria. A female predominance is however noted with a sex ratio of 3:1. 13

In our study, a total of 150 patients were enrolled. Clinically, the sites of hernia studied were the umbilical and paraumbilical hernia. The most common is the paraumbilical with frequency of 98 (65.4%) and umbilical hernia with 52 (34.7%). The size of hernia was small with 112 and moderate or huge with 38 cases. Reducibility of hernia during presentation as non-reducible were 9.3% and reducible were 90.7%. The number of cases with complications were around 18%. One of the studies showed clinical presentation of umbilical and paraumbilical hernia in adult i.e distribution with respect to age and sex and mode of presentation. Umbilical hernia constituted 8.6% of external abdominal hernia. Paraumbilical hernia formed 66.6% of umbilical hernia with supra umbilical being more common. Out of 30 patients, 17 patients were between age group 31 to 50 years. 20 patients were females, ratio being male: female 1:2. Swelling around the umbilicus was the main common presentation with pain in the swelling in half of the cases. Majority of umbilical hernia patients i.e 80% patients presented with irreducibility. 1 patient had skin ulceration, 3 patients had intertrigo, 1 patient had inflamed hernia and 1 patient had obstructed paraumbilical

hernia. Obesity and multiparity were most common associated risk factor. In I patient with obstructed paraumbilical hernia, emergency surgery with simple transverse repair was done. In all cases prolene No. 1 was used for repair. Surgery is the treatment of choice in all cases. The classic repair is that proposed by Mayo. In healthy individuals surgical repair with better non absorbable suture material given good results with a low recurrence rate.14

In another study by Alenazi et al, the overall prevalence of abdominal hernias was 11.7%, hernias were more prevalent in females than in males (63.4% vs. 36.6%), the most common cases were para-umbilical 33.9%, inguinal 27.3%, and umbilical in 20.8% of the cases, 51.9% were obese, 53.6% had previous abdominal surgery, 19.1% had previous abdominal trauma, 28.4% had positive family history of hernia and 39.9% were grand multipara. Hernias were significantly affected by sex, obesity, previous abdominal surgery, previous abdominal trauma, positive family history of hernias and being grand multipara ( $p < 0.05$ ). Treatment of hernias was surgical in 47.5% and conservative in 47.0%, complications occurred in 20.2% and 25.1% were recurrent after treatment. Abdominal wall hernias are a common clinical presentation in Arar, KSA. Abdominal hernias are more common in women than men, there is an obvious relationship between obesity and hernias. Early diagnosis, easily accessible health facilities and health education are important to prevent complications. New modality of treatment should be adopted as the standard choice of care to prevent recurrence. 15

## Conclusion

From the above results, the authors conclude that small Paraumbilical hernia are more common in comparison to umbilical hernia.

## REFERENCES

1. Coste AH, Jaafar S, Misra S, Parmely JD. Umbilical hernia. InStatPearls 2019 Sep 29. StatPearls Publishing.
2. Velasco M, Garcia-Urena MA, Hidalgo M, Vega V, Carnero FJ. Current concepts on adult umbilical hernia. *Hernia*. 1999;3(4):233-239.
3. Kulaçoğlu H. Current options in umbilical hernia repair in adult patients. *Ulus Cerrahi Derg*. 2015;31(3):157-61.
4. Muysoms FE, Miserez M, Berrevoet F, Campanelli G, Champault GG, Chelala E, et al. Classification of primary and incisional abdominal wall hernias. *Hernia*. 2009;13(4):407-14.
5. Parker SG, Halligan S, Blackburn S, Plumb AAO, Archer L, Mallett S, et al. What Exactly is Meant by “Loss of Domain” for Ventral Hernia? Systematic Review of Definitions. *World J Surg*. 2019;43(2):396-404.
6. Upper GI Surgery Hernia Repairs (groin, umbilicus, wound hernia) Umbilical and Para-Umbilical Hernia In adults. (cited 25th May 2016)
7. 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 Jul;14:455–462.
8. Farrow B, Awad S, Berger DH. More than 150 consecutive open umbilical hernia repairs in a major Veterans Administration Medical center. *Am J Surg*. 2008;196:647–651.
9. Kingsnorth A, LeBlanc K. Hernias: inguinal and incisional. *Lancet Lond Engl*. 2003;362(9395):1561-71.
10. Al-Salem AH. Abdominal Wall Hernias and Hydroceles. In *Atlas of Pediatric Surgery 2020* (pp. 79-98). Springer, Cham.
11. Ngom G. Umbilical hernia in African children: Same attitude than that of inguinal hernia. *J Indian Assoc Pediatr Surg*. 2006;11(4):255.
12. Shankar DA, Itani KMF, O'Brien WJ, Sanchez VM. Factors Associated With Long-term Outcomes of Umbilical Hernia Repair. *JAMA Surg*. 2017;152(5):461-6.
13. Dabbas N, Adams K, Pearson K, Royle GT. Frequency of abdominal wall hernias: is classical teaching out of date?. *JRSM short reports*. 2011 ;2(1):1-6.
14. Sajjan Dundappa. (2022). A study on clinical presentation of umbilical and paraumbilical hernia in adults. *International Journal of Health and Clinical Research*, 5(2), 303–307.
15. AhmedAlenazi A, Alsharif MM, Hussain MA, Alenezi NG, Alenazi AA, Almadani SA, Alanazi NH, Alshammari JH, Altmyat AO, Alanazi TH. Prevalence, risk factors and character of abdominal hernia in Arar City, Northern Saudi Arabia in 2017. *Electron Physician*. 2017 Jul 25;9(7):4806-4811.