

A STUDY ON GROIN HERNIAS PRESENTING AS ACUTE SURGICAL EMERGENCIES IN SLN MEDICAL COLLEGE, KORAPUT

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Abstract--

Background and Aims: Groin hernia is very common in surgical practice. In a few instance patients with a groin hernia present as an emergency, Irreducibility, obstruction and strangulation, incarceration are its commonest complications which usually presents as acute emergencies. Late presentation and complicated hernias is associated with poor prognosis and a high rate of mortality and morbidity even with better care, improved and advanced surgical techniques. The aim of this study was to determine the various modes of presentation, clinical finding, surgical strategies and to evaluate the postoperative outcome in complicated groin hernia surgeries in a peripheral college like SLN Medical college.

Materials and Methods: This study was a prospective study done in SLN Medical College Hospital from June2020 to June2022. The study group was managed only by department of surgery. Patients are of age group of 20-80 yrs. Over a period of 2yrs, 66 cases were studied. These cases were studied from time of admission till discharge and followed up in outpatient department once in a week for 2 month. A detailed history was elicited and clinical examination was done. All patients were given pre-and post-operative antibiotics. Patients in our study include those with good health to those with associated medical disorders. The results of study were later analyzed and have been presented in this study.

Result: 57 groin hernia patients with complication were evaluated during the study period. Mean age of the patients was 54 years with maximum incidence in age group of 60 to 70 years. In our study majority of the cases were male (54) with male to female ratio of 20:1. Inguinal hernia complications were seen predominantly in males and femoral hernia complications in females. Right sided hernias(77.19) and left side is 22.81%. Strangulation was high in the age group of 61 to 70 years. Almost all patient present with pain and swelling over groin(100%) followed by irreducibility and vomiting. Small bowel is the most common content in the sac(47%). Herniorrhaphy only done in 52.63% of cases while resection

and anastomosis of Bowel done in 14% cases. 71.92% of cases recovered well without any post operative complication while seroma was the most common complication. Mortality seen in 5.26% of cases.

Conclusions: Incidence of acute complication of groin hernia was found to be highest in age group of 60yrs to 70yrs. Complication of inguinal hernia was more common in males than females . The incidence of acute complication of groin hernia is three times

commoner on the right side than on the left side. The most common symptom was groin swelling with pain followed by vomiting. The most common content found in the sac was small bowel followed by omentum. The deep ring was found to be the most common site of obstruction. The most common procedure followed in my study was only herniorrhaphy. It was followed by omentectomy.

INTRODCUTION

The earliest text of hernia appears in Egyptian papyrus of Ebers of 1552 BC. Heliodorus was the surgeon who performed the first hernia operation. Aulus Cornelius Celsus was the first writer to write detailed description of hernia surgery in 50 AD. The concept of rupture comes from Galen of Pergamum (AD 129-199) in Greco-roman period(1). Edoardo bassini (1844-1924) was the first to describe the dissection of hernial sac and high ligation of sac with anatomical reconstruction of posterior inguinal wall. Majority of the procedures which followed were a modification of his technique. Therefore he is rightfully called as father of modern herniorraph(2). Shouldice a Canadian surgeon in 1960 described the method by overlapping layers with continuous suture. This technique is masterfully performed an a recurrence rate of less than 1 % has been achieved. Usher introduced polypropylene prosthetic mesh for reinforcement which led to 'tension free repairs'. Lichtenstein and group describe strengtheningof posterior wall with mesh and produced very low recurrence rates, under local anesthesia and also the ease with which it can be done in 1989(3).

Groin hernias are the most common type of hernia and account for 75% of all abdominal wall hernia. Inguinal hernias account for 95% of these and femoral hernia the rest(4).The vast majority of groin herniaoperations are performed electively and are considered to be low risk procedures (5). According to Primatesta andGoldacre,(9) the lifetime risk of undergoing groin hernia surgery amounts to 27.3% for males, and 2.6% for females.Groin hernias can give rise to an emergency if patients develop an incarceration or strangulation of the hernia sac contents (6). Incarceration happens if it is no longer possible to reduce the hernia sac contents because the hernia defect is too narrow or due to adhesions (3). In the case of strangulation the blood flow to the organs within the hernia sac (e.g., omentum,bowel) is squeezed off (3). If the hernia sac contents cannot be safely reduced in such a situation (taxis) (7, 8) or there is a risk of recurrent strangulation, emergency repair is needed immediately .

Studies on the outcomes of acute groin hernia surgery have shown increased morbidity and mortality, and an increase in the length of hospital stay compared with elective groin hernia repair(10). Patients with bowel necrosis have a significantly longer hospitalization and a higher postoperative complications, which varied from 6% to 43% [4–7], with a mortality rate of 1–7% (11). To avoid the high risk of morbidity and mortality associated with acute groin hernia surgery, several Surgeon have recommended that most groin hernias be treated surgically soon after diagnosis.

MATERIAL AND METHODS

This study was a prospective study, conducted in the Department of General Surgery, Saheed Laxman Nayak Medical College and Hospital, during june2020 to june 2022 (2 Years).The patients are selected with Age Group: 18 to 80 years, having groin hernia presented with sign and symptoms of complication like- Pain , Irreducibility ,abdominal pain, abdominal distension, vomiting, obstipation, with signs of peritonitis, tense and tender swelling. All patients with less than 18 years of age were excluded.

57 cases with complicated groin hernia were studied in this 2 years. . Patients were enrolled into the study after proper consent for detailed clinical examination, relevant investigation and subsequent surgical treatment. These cases were studied from time of admission till discharge and followed up in out patient department. All patients were given pre-and post operative antibiotics and supportive treatment. Patients in our study include those with good health to those with associated medical disorders. The patients were followed up for early and late complications like infection, orchitis, testicular atrophy, anastomotic leak recurrence, obstruction. Follow up interval was once in 14 days for 2 month, once every month for the next 3 months. The data were documented using Microsoft excel and were later analyzed with help of by SPSS software .

RESULTS

57 patients were studied. Mean age of the patients was 54 years

Age group:

AGE GROUP	Frequency	Percentage
11-20	1	1.7
21-30	3	5.2
31-40	5	8.7
41-50	10	17.5
51-60	14	24.5
61-70	18	31.5
>70	7	12.2

In this study complicated hernia is widely distributed in age groups from 30- 70 years with maximum incidence in age group of 60 – 70 years.

Sex distribution:

	Frequency	Percentage
Female	3	5.2
Male	54	94.8
Total	57	100

In our study majority of the cases were males, with male to female ratio of around 20:1. This shows increased incidence of complicated hernia among men.

Types of hernia with sex:

	Inguinal	Femoral
Female	2	1
Male	54	0
Total	56	1

In this study complicated femoral hernia was found to be more common among women, and complicated inguinal hernia was more common in men.

Side of hernia most commonly complicated

	Frequency	percentage
Right side	44	77.19
left side	13	22.81
Total	57	100

In this study right sided hernia was found to be more common than left sided hernia with rt : Lt ratio of 3.35: 1

Symptoms:

	Frequency	percentage
Pain with groin swelling	57	100
Ireducibility	50	87.71
vomiting	31	54.38
Absent bowel sound	23	40.35
Abdominal distention	20	35.08
Generailse tenderness of abdomen	17	29.82
Fever	7	12.28

In our study the most common symptom was groin swelling with pain followed by irreducibility and vomiting

Contents of the hernial sac:

	Frequency	percentage
Small bowel only	27	47.36
Omentum only	12	21.05
Small bowel+Omentum	9	15.78
caecum	4	7.01
colon	3	5.26
Testis	2	3.50

According to this study most common content in the hernial sac was small intestine followed by omentum.

Site of obstruction:

	Frequency	percentage
Deep ring	32	56.14
Superficial ring	24	42.10
Femoral ring	1	1.75

In our study also the most common site of obstruction was the deep ring.

Optimum procedure done:

	Frequency	percentage
Herniorrhaphy only	30	52.63

Omentectomy with herniorrhaphy	12	21.05
Orchidectomy	3	5.26
Resection anastomosis of bowel with herniorrhaphy	8	14.03
Appendicectomy	2	3.50
Ileostomy	2	3.50

The most common procedure done was Herniorrhaphy alone among 52.6% of the patients, followed by omentectomy in 21% of the patients. Resection anastomosis was done in 14.03% of the patients.

Operative complication:

	Frequency	percentage
No complication	41	71.92
Seroma	7	12.28
Wound infection	4	7.01
Anastomosis leak	2	3.50
Death	3	5.26

All the patients were given preoperative antibiotic, piperacillin tazobactam 4.5gm IV at the beginning of the procedure and continued for four days post operatively. Most of the patients recovered without any complication (71.92). Most common complication was found to be seroma (12.28%) which was managed conservatively. There were four cases of wound infection and abscess formation of which two needed evacuation on the third post operative day for which culture and sensitivity was done and appropriate antibiotics were given. All underwent secondary suturing after the infection was controlled. Two cases had anastomosis leak which needed reexploration on 9th post op day. Three patients died post operatively on fourth day due to systemic inflammatory response syndrome (SIRS), and acute respiratory distress (ARDS)



Fig 1- A 40 yr male presented with strangulated rt side inguinal herni

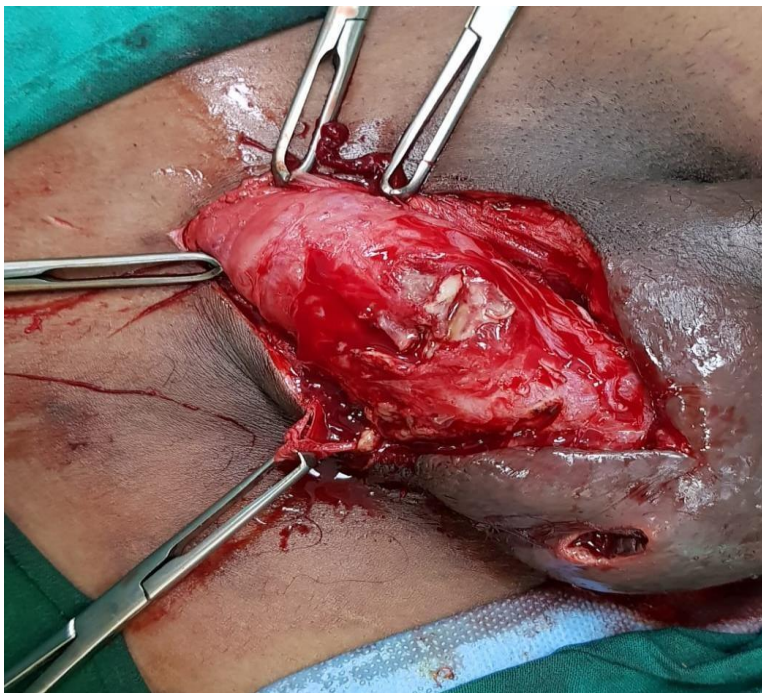


Fig 2- Hernia sac identify with strangulated content

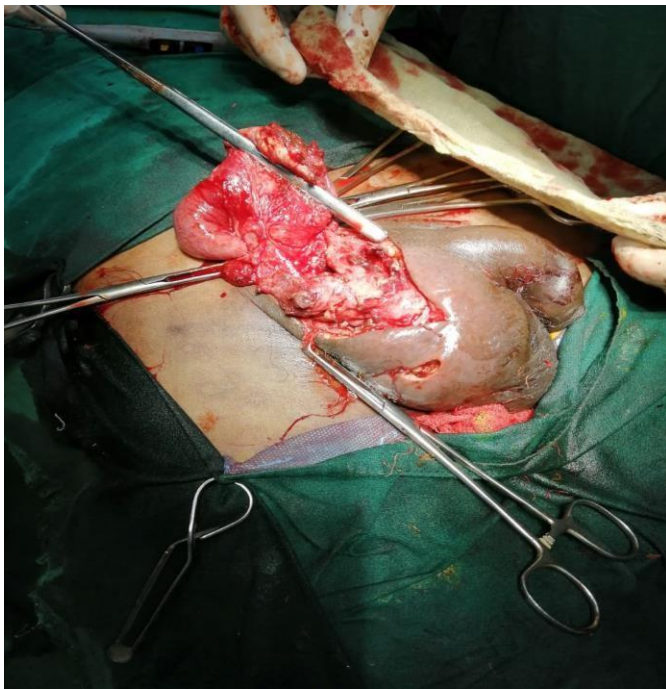


Fig 3- sac containing gangrenous small bowel

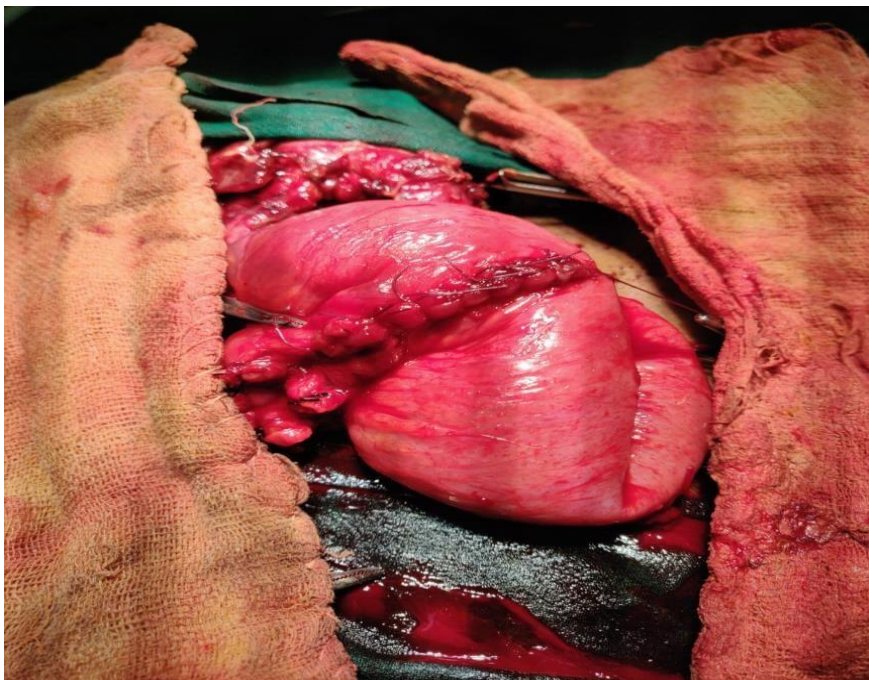


Fig 4- resection and end to end anastomosis of small bowel

DISCUSSION

In this study we found that older age has a strong correlation with complicated groin hernia and bowel resection in incarcerated groin hernia patients, with maximum incidence in age group 60-70 which is around 50% of total incidence. Gallegos NC, Dawson et al and Monson

, Martin et al found that older age is a risk factor affecting bowel resection among incarcerated groin hernia patients. Furthermore, the pooled analysis of two studies with detailed age classifications showed that patients aged ≥ 65 years had a higher risk of bowel resection(12,13). In our study majority of the cases were males, with male to female ratio of around 20:1. This shows increased incidence of complicated hernia among men. As the female pelvis is wider, and the angle between Cooper's ligament, the inguinal ligament is smaller than in men and internal ring is correspondingly narrow so Women are less susceptible to groin hernia but the musculoaponeurotic attachments are such that women are proportionally more prone to develop femoral hernias. The study conducted by Kulah B, Kulacoglu et al found that incidence of groin hernias is common in male than in female, with male to female ratio of 19:1. Inguinal hernias are commonly seen in male than in females, more commonly on right side, and most of them occur in indirect inguinal hernias. Femoral hernias commonly occur in females and become complicated more frequently than inguinal hernias so the findings are almost indistinguishable from our study(14).

In our study we found that right side groin hernia is more common than left side with right to left ratio of 3.35: 1 it may be due to anatomical attachment of the small bowel mesentery and as the right side testis descends later than left side so the complications were more often with the right sided groin hernias when compared to left side. Andrews et al and Shakya et al are also found in their study that right sided groin hernia is more common than left side whether it may be simple or complicated so the findings are consistent with our study(15,16). According to Schwartz et al deep ring is the common site of constriction, in our study we also found that deep ring is the common site of constriction(around 56%) so indirect hernia is more prone to constrict than direct. It may be due to stronger musculoaponeurotic support around deep ring.

In our study pain and swelling over the groin region(100%) are the most common and consistent presentation in a complicated hernia it is followed by irreducibility (87%) and vomiting (54%). Abdominal distention account for 35% of cases with fever being the least common presentation. Rosenberg et al in their study found that pain swelling and irreducibility were the presentation in 100% cases, rest parameters are almost similar to our study(18). Amos et al and Shakya et al reported small bowel as the most common content in inguinal hernias followed by omentum(16,19). In this study we have also found that small bowel(47%) being the commonest content followed by omentum(21%) and small bowel plus omentum(16%). Most of the pooled studies evident that herniorrhaphy being the most commonly done procedure followed by omentectomy and resection anastomosis of bowel. We have also found similar trend in our study with herniorrhaphy done in 52.63% of cases.

We have found that post operative complication occurs in around 30% of cases, seroma being the most common complication among all with 12.28% and wound infection occurs in 7% of cases. We have reported death in 3 cases which is around 5.36%. Jenkins et al, the incidence of post-operative complications varies between 1% and 7% with the most common complication being wound infection(20). Nielsen et al have reported a morbidity rate varying between 25% and 41.5%(21).

CONCLUSION

The following observation was made in this study Incidence of acute complication of groin hernia was found to be highest in age group of 60yrs to 70yrs. Complication of inguinal hernia was more common in males than females and complication of femoral hernia was more common in females than males. The incidence of acute complication of groin hernia is

three times commoner on the right side than on the left side. The average duration of hernia before acute episode was 19,45 months. Majority of acute presentation was within first year of developing hernia and more than 80% of them presented within first two years. The most common symptom was groin swelling with pain followed by irreducibility . The most common content found in the sac was small bowel followed by omentum. The deep ring was found to be the most common site of obstruction The most common procedure followed in my study was only herniorraphy. It was followed by omentectomy.Majority of the patients post operative period was uneventful. The most common complication encountered was seroma. The patients with older age group were found to have strangulation more commonly than younger age group.

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