



Groin Hernia's Presenting as Emergency: A Study Regarding Surgical Repair and Outcome in Rajiv Gandhi Institute of Medical Sciences & General Hospital, Kadapa

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Abstract

Background and Objectives: A significant proportion of hernias require emergency surgery, which is associated with a higher postoperative complication rate than elective surgery and a less favourable outcome. Our aim is to look into the various groin hernias, which require surgical repair as an emergency and look into the various surgeries and also the complications which commonly arise during the patient's hospital stay.

Methods: 87 patients presenting acutely with symptomatic hernias to the casualty of Department of General Surgery, RIMS Medical College & general hospital, Kadapa who were consenting for surgery between January 2018 and December 2018 were selected for the study. All information's were recorded including age, sex, type of hernia, side and site of hernia, detailed symptomatology, signs, abdominal and local examination findings. We also recorded type of surgery done and operative findings. All patients were followed up during hospital stay and recovery monitored for development of any complications.

Results: Maximum incidence of complicated hernias was in the age group of 60-70 yrs. Even though increased incidence of complicated hernias were noted among men with a male to female ratio more common 28:1, femoral hernias were more common in women. Right sided hernias were found to be more common (3.35:1). The most common symptom was groin swelling with pain followed by vomiting. Commonest site of obstruction was found to be deep ring. The commonest content was small intestine followed by omentum. The commonest procedure done was hernioplasty (87.3%). 10 out of 87 patients underwent resection anastomosis, and there is a significant association between mean hours of delay in hospitalization and who underwent resection and anastomosis (34.07 hrs.) compared to 7.55 hrs of delay among who did not undergo resection (p value <0.001). 13 out of 87 patients had surgical site infection and it was the commonest complication (14.9%) in our study, and 4 patients were from the resection anastomosis group, with a significant association (p value 0.038).

Introduction

An abdominal hernia is the abnormal protrusion of a peritoneal lined sac through a weakness in the muscles of the abdominal wall. This may contain intestine, omentum or other abdominal contents.

Hernias usually present as a lump, with or without discomfort that may affect daily activities. They can be life-threatening if bowel within the peritoneal sac becomes strangulated or obstructed. They may present as inguinal, femoral,

umbilical/paraumbilical, incisional or epigastric hernias.

Most common being inguinal > incisional> femoral.

Emergency hernia surgery is associated with a higher postoperative complication and a less favourable outcome.

Abdominal wall hernias are common, with a prevalence of 1.7% for all ages and 4% for those aged over 45 years. Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women. Repair of inguinal hernia is one of the most common operations in general surgery. They are due to a defect in the inguinal area, abdominal contents either protruding through the deep inguinal ring and following the inguinal canal or directly through a defect in the transversalis fascia.

A femoral hernia is an extension of a viscous in the course of the femoral canal and exit via the saphenous opening due to a defect in the femoral ring. It is the third commonest hernia and twenty percent happening in women versus 5% in men. This hernia is more common on the right side of multi-parous old women. The femoral ring is bordered anteriorly by the inguinal ligament, posteriorly by the iliopectineal ligament, medially by the lacunar ligament, and laterally by the femoral vessels. The narrow femoral canal and rigid femoral ring are the main cause of bowel incarceration, strangulation and bowel resection which has been shown to have increased mortality and morbidity.

Here we look into the various groin hernias presenting in our medical college hospital which require surgical repair as an emergency and look into the various surgeries and also the complications which commonly arise during the patient's hospital stay.

Methods

This study is a prospective study done in RIMS Medical College & General Hospital from January 2018 to December 2018. The study group was managed only by department of surgery. Study

group will be selected from the casualty. Patients diagnosed from casualty for emergency surgery will be sent for routine investigations and pre-anesthetic consultation. After admission, the patients will undergo thorough assessment and all the data will be prospectively collected. The information recorded will include: age, sex, site, side and type of hernia, detailed symptomatology at presentation including the chief complaint and related symptoms, duration of symptoms, time from the occurrence of symptoms to obtaining medical care, past medical history.

Important examination findings noted included vital signs, local examination of swelling including two dimensional sizes of swelling, findings on abdominal examination and bowel sounds.

Other standard treatment measures (intravenous fluid /blood resuscitation, antibiotics, Nasogastric aspiration etc.) were continued as necessary and not interfered for the study alone. Also noted were operative findings and analysis of contents of the hernial sac and surgical procedure for repair.

The patient will be followed up during his hospital stay and his recovery will be monitored for development of any complications.

Results

There are 87 patients studied and data were collected as per study protocol the results of study shown below and discussed these cases were studied from time of presentation to casualty until gets discharged. A detailed history was elicited and clinical examination was done. Surgical details and post-operative periods were observed. The results of study were later analyzed and have been presented in this study.

Symptoms

In my study most common symptom was groin swelling with pain followed by vomiting.

Symptoms	Frequency	Percentage
Pain with groin swelling	86	98.9
Vomiting	36	41.3
Abdominal distension	16	18.4
Fever	2	2.3
Faeculent vomiting	1	1.1

Contents of hernia sac

	frequency	Percentage
Small bowel	77	88.5
Omentum	32	37.9
Caecum	10	12.5
Appendix	5	5.7
Sigmoid	4	4.6
Bladder	1	1.1
Transverse colon	1	1.1

In my study small intestine was the commonest content followed by omentum.

Optimum procedure done

	Frequency	Percentage
Hernioplasty	76	87.3
Omentectomy	19	21.8
Orchidectomy	8	9.1
Resection and anastomoses	10	11.4
Appendectomy	1	1.1
Lothessen procedure	1	1.1

Post operative complication

	Frequency	Percentage
No complication	53	60.9
Surgical site infection	13	14.9
Ipsilateral scrotal oedema	5	5.7
UTI	5	5.7
Seroma	5	5.7
Hematoma	3	3.4
Mesh infection	1	1.1

Discussion

In my study the surgical repair and outcome of groin hernia's were studied.

The maximum number of patients who presented with complicated inguinal hernias were in the age group 60-70 years, this was similar to previous studies, Andrews et al found 68 years to be the average age for complicated hernias whereas Hancock et al found 66 years to be the average age.

The incidence in males was found to be much higher than females, with male to female ratio of 28:1. Andrews found the male to female ratio for inguinal hernia as 6.8:1.

In my study right sided hernia was found to be more common than left sided hernia with right : left ratio of 3.35:1. Murley and Aird quoted a predominance of right sided groin hernias.

Andrews found a right to left ratio of 2.9: 1 for inguinal hernias.

Majority of the patients in my study presented with symptoms within one year of noting the hernia swelling. In general, hernias of short duration appear to strangulate more commonly than longstanding ones. The explanation lies in the relative rigidity of the hernial ring when a hernia appears first and its gradual stretching and laxity as time passes. Gallegos et al. found the rate of increase of cumulative probability of strangulation in a hernia to be the greatest in the first 3 months of its presence."

Mean hours of delay in hospitalization among those who underwent resection anastomosis was 34.07 hours compared to 7.55 hours of delay among those who did not undergo resection anastomosis. This difference was found to be statistically significant with (p<0.001).

The present study revealed small bowel as the most common content of a hernial sac in both children and adults. This was also observed by Andrews and Amos.

In my study 60.9% did not develop any complications and 39.1% had any one of the complications above mentioned. SSI was the most common complication in our study with 13 patients (14.9%) developing SSI, SSI was diagnosed as per CDC criteria SSI. Study conducted by Nadir et al, Hadi et al, Saeed et al had 7.1%, 7.4% and 8.6 % of SSI respectively and study by Ahmed et al and by Majeed et al, it was 2.08% and 3% respectively. In USA, the SSI rate is estimated to be 2.8% and 25% in European countries. Previous Indian studies have shown SSI rates in general not specified to hernioplasty ranging between 4% and 30%". These high rates could be due to lack of infrastructure, human resources, clean water, poor sanitation, overcrowding, and often a general disinterest in basic infection control by health care staff. Owing to the fact that our residents took more operating time compared to the previous studies and are burdened with high case load, hospital facilities, the surgical site infection rate even though high

was acceptable compared to the above mentioned studies.

In my study 9 out of 77 patients who underwent mesh repair developed surgical site infection, compared to 4 out of 10 who had features of peritonitis and underwent resection of gangrenous bowel, and a significant association was found between bowel resection and surgical site infection (P value 0.038).

Second most common complications in our study were UTI, seroma and ipsilateral scrotal edema each 5.7%. Incidence of UTI is comparable to the study by Hameed Khan et al which is 5.9%. Incidence of hematoma is slightly higher to studies conducted by Khan N, Naeem m et al and Pajanen H Varjo R et al which is 1.8% and 3% respectively, 5.7% had ipsilateral scrotal edema, all of whom had an indirect hernia, hence edema may be due to excessive dissection and traction of cord. Incidence of seroma in previous studies were 3.97%, 3.6% which was comparable".

Comparing age group and complications it was found that most common age group developing complications following emergency hernioplasty was 51 -60 followed by 70 years and above and Least complications was found in younger age group of 13 -40.3. This was not matching with previous data's that old age people are more prone for complications.

Conclusion

The following observation was made in this study.

Out of 87 patients there were 84 males and 3 females, mean age was 53.22 years, with male to female ratio of 28:1.

67 patients had right sided hernias and 20 had left sided hernias.

There were a total of 49 indirect hernias, 37 direct hernias and one femoral hernia were noted.

The most common procedure done was Hernioplasty using prolene mesh among 87.3% of the patients.

In 10 patients (11.4%) mesh was not placed as they underwent resection and anastomoses of the

gangrenous bowel which was followed by herniotomy/ posterior wall plication.

Most common age group developing complications following emergency hernioplasty in my study were of the age group 51 -60 followed by 70 years and above and Least complications was found in younger age group of 13 - 40. The most common post operative complication was found to be surgical site infection, and the incidence of SSI was found to be more in patients who underwent resection

Mean hours of delay in hospitalization among those who underwent resection anastomosis was 34.07 hours compared to 7.55 hours of delay among those who did not undergo resection anastomosis.

In my study it was noted that there were 10 cases with bowel strangulation, 26 with bowel obstruction and 51 presented with irreducibility only. No mortalities were noted.

In my study most of the patients did not develop early post operative complications. Early diagnosis and prompt management in complicated hernias done under emergencies yield good results.

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