Original Article

Presentation and Outcome of Surgical Management of Strangulated Inguinal Hernia at Liaquat University Hospital Hyderabad

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ABSTRACT

Aim: The objectives of the study are to determine the incidence of strangulated inguinal hernia in patients presenting with irreducibility and obstruction, evaluate the age and sex incidence, see the duration of hospital stay in our setup and see the post operative morbidity and mortality.

Study Design: Experimental Study.

Place and Duration of Study: This study was carried out in Surgical Unit-IV, Liaquat University Hospital Jamshoro, from 2007 to 2009.

Materials and Methods: 100 cases of obstructed hernia were selected out of which 85 with strangulation were included in this study. These patients were admitted through the outpatient department, as well as from casualty department of Liaquat University Hospital Jamshoro/Hyderabad. All these patients were admitted in emergency. Results were prepared with help of tables and graphs. Data was analyzed through SPSS software .

Results: 140 patients presenting with obstructed hernia were selected of which 85 were found to have strangulated hernia. There was wide variation of age ranging from a minimum 15 to 70 years with the mean age 42 years. 55 patients had Right sided hernia 64.7% and 30 patients had Left sided hernia 35.2% and no patient with bilateral strangulated inguinal hernia reported 0%. During surgery of 60 patients (70.5%) had gangrenous omentum while 23 cases (27%) ileum was non viable so we had to resort to resection and anastmosis, two cases (2.3%) Ileum was so much contaminated so we had to resort to Ileostomy and two case (2.3%) sigmoid colon was involved so we had to resort to colostomy.

Postoperatively majority of them developed wound infection 14 (16.4%) followed by chest infections 10 (11.7%) Haematoma formation was reported in 5 (5.8%) and retention of urine in 3 patient (3.5%).

Conclusion: Good pre-operation assessment and early management will decrease the morbidity and mortality in strangulated inguinal hernia.

Key Words: Strangulated Inguinal Hernia, irreducibility & obstruction, Ileostomy, colostomy.

INTRODUCTION

A hernia is the protrusion of part of the abdominal contents beyond the normal confines of the abdominal wall[1]. The word "hernia" is derived from a Greek word "hernios" which means "branch or off shoot"[2].

Hernia is a common condition afflicting both men and women since time immemorial. Inguinal hernia is protrusion of abdominal contents through 4 cm long inter muscular slit lying above the medial half of inguinal ligament called inguinal canal. It may be direct (i.e. defect in the transverses abdominus aponeurosis and transversalis fascia) or indirect (i.e. protrusion through and opening in the internal ring) [3,4,5]. A hernia, from which a contained organ cannot be reduced, is said to be irreducible or incarcerated; if in addition to incarceration there is a compromise of the blood supply of the contained organ, than this hernia is said to be strangulated. Strangulated hernias are particularly dangerous because they lead to tissue necrosis and can progress to severe complications like perforation, sepsis and even death. So it's a surgical emergency.

Diagnosis of hernia is purely clinical but there is long list of surgical methods available for the management of strangulated inguinal hernia and techniques are improving day by day. It depends on the surgeon's choice that what method he prefers to manage the condition.

Different surgical methods are performed all over the world for the management of strangulated hernia and the techniques are improving day by day. The less the post-surgical complication related to the procedure more would be the preference for management.

Constipation, abdominal distension, absent bowel sounds and redness of swelling are important pre-operative findings associated with morbidity and mortality[7].

Object of this study will reflect the presentation, surgical management and outcome of surgical management of strangulated inguinal hernia in our setup.

MATERIALS AND METHODS

This study was carried out in the General surgical department at Liaquat University Hospital Hyderabad, Sindh, Pakistan from 2007 to 2009. This study consisted of 140 patients of diagnosed case of obstructed hernia were admitted. 140 patients selected out of which 85 with strangulation were included in this study. All these patients were admitted in emergency.

Patients whose hernias were reduced spontaneously and those in whom gut was not strangulated during operation were excluded from study. In each case relevant printed Performa was filled, which included detailed clinical history of patient, physical examination, clinical findings and clinical diagnosis. All patients underwent for base line investigations.

Resection was restored to end to end anastmosis was done when the gut was found to be gangrenous. In recurrent cases especially very elderly, consent was obtained for orchidectomy before surgery.

RESULTS

140 patients presenting with obstructed hernia were selected of which 85 were found to have strangulated hernia. There was wide variation of age ranging from a minimum 15 to 70 years with the mean age 42 years.

55 patients had Right sided hernia 64.7% and 30 patients had Left sided hernia 35.2% and no patient with bilateral strangulated inguinal hernia reported 0% (Table 1). The majority of patients in our series were farmers 41 (48.2%) and labourers 24 (28.23%) other professions include drivers 6 (7%), railways coolies 9 (10.5%), teacher 2 (2.3%) and carpenter 3 (3.5%) (Chart 1).

All the patients underwent surgery. During surgery of 60 patients (70.5%) had gangrenous omentum while the rest of the gut was normal. Hence omentectomy was done.

In 23 cases (27%) ileum was non viable so we had to resort to resection and anastmosis, two cases (2.3%) Ileum was so much contaminated so we had to resort to Ileostomy and two case (2.3%) sigmoid colon was involved so we had to resort to colostomy.

Complications were also reported in our series of the patients. Majority of them developed wound infection 14 (16.4%) followed by chest infections 10 (11.7%) Haematoma formation was reported in 5 (5.8%) and retention of urine in 3 patient (3.5%) (Table 2).

The mortality rate in our series was 3.5%. 3 patients died. Patients were above 60 years of age with history of comorbid disease. One died on 5th post operative day due to chest infection while two died on 10th post operative day due to cardiac arrest. Hence delayed presentation and age were common factors responsible for mortality

The duration of hospital stay varied from 7 to 30 days. Duration of stay was longer in those patients who had developed complications.

Table No.1:- Side of Hernia

Side	No. of Patients	Percentage
Right sided	55	64.7%
Left sided	30	35.2%
Bilateral	0	0
Total	85	100%

Chart No.1:- Occupation of Patients

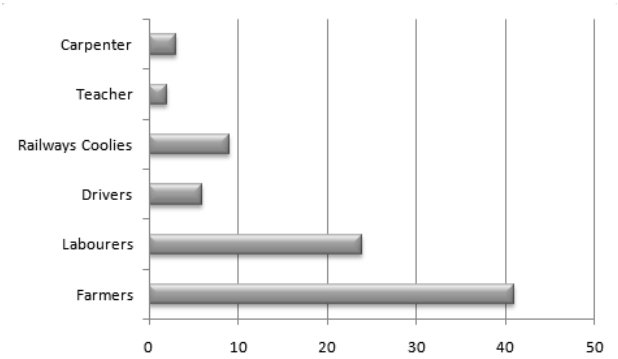

Table No.2:- Postoperative Complication

Complications	No. of Patients	Percentage
Wound infection	14	16.4 %
Chest infection	10	11.7%
Haematoma	5	5.8%
Retention of urine	3	3.5%
	32	37.4%

DISCUSSION

Inguinal hernia is one of the common surgical emergencies in third world countries. The rate of strangulation of bowel is very high with late presentation and ignorance of already existing inguinal hernias [8].Therefore strangulated inguinal hernia is a common surgical emergency with life threatening consequences [9].

The results of this study show that inguinal hernias are more common in men and found rarely in women.In this study, 55 patients (64.7%) had right sided hernia compared to 30 patients (35.2%) who had left sided indicating the incidence of strangulated inguinal hernia is more on right side. Compared to study conducted by Manzar Salim which shows ratio of 66 to 34% respectively [10].

According to our study, the majority of the patients were farmers 41 (48.2%) followed by labourers 24 (28.23%) compared to the study conducted by Kangsk Burnettca which shows hernia incidence about 95% in labourers who do heavy work [11]. In our country the ratio of farmers is high due to agricultural background and most of our patients come from rural areas. So strangulated inguinal hernia is more common in lower socioeconomic group or we can say that it is the disease of poor people [12].

The morbidity and mortality of strangulated inguinal hernia depends on the presentation of patients. If patients present early and operation is conducted soon than bowel can be saved or only omentectomy is done and rest of the gut is given a chance of viability by applying warm packs [13].

In this study 60 patients (70.5%) went for omentectomy and rest of viable gut was returned to abdominal cavity, on the contrary 23 patients (27%) who presented late i.e. beyond 72 hours have to undergo resection. Ileal resection done and end to end anastmosis performed and these patients were kept N.P.O for 72 hours. Ileum was the second most common part of the gut after omentum which is affected in strangulated inguinal hernia [14]. This is to be compared to Mrihedioh and Alina study which shows that 12 out of 15 strangulated hernias presented with small bowel obstruction [15].

In cases where patients present late and the peritoneum is contaminated than stoma formation is the only option [16]. In this study ileostomy was therefore done in 2 cases (2.3%) due to late presentation and contamination. Sigmoid colon is also the part of the hernial sac in some cases but it doesn't happen very often. In this study only two cases was reported in which colostomy was done compared to the study conducted by Tufnellml Abraham that shows perforated diverticulum of sigmoid colon is a rare finding in strangulated inguinal hernia [17].

Strangulated inguinal hernia can present as acute pancreatitis[18] or it can present as diverticular abcess as a part of sac[19] but it happens very rarely. Primary omental liposarcoma has also been reported to be part of hernia sac in strangulated hernia [20].

Repair of strangulated inguinal hernia depends how early patient reports to the hospital and facilities available there. In this study all hernias were repaired with Bassini's technique i.e. by interrupted sutures connecting inguinal ligament with conjoint tendon. In all cases repair was done with prolene one as recommended by latendicum standard [21].

There is also incidence of higher rate of wound infection and other complications with leichtenstein tension free repair in the management of strangulated inguinal hernia. [22,23].

There are studies which have proposed that TAPP procedure can also be used for emergency treatment of strangulated inguinal hernia. But it can be done by experienced and trained laparoscopic surgeon [24].In our set up where the facilities are not available and the patients present late only Bassinis repair would be a standard technique to repair strangulated hernia. In this study, there was incidence of wound infection in 14 patients (16.4%) followed by chest infection 10 (11.7%) compared to a case study published by Mr. Coskun and Deamir regarding necrotic soft tissue infection in strangulated inguinal hernia [25].

Three patients in our study died due to cardio-respiratory failure. Hence mortality rate was 3.5%. Patients were above the age of 60. Hence late presentation and old age are the main cause of morbidity and mortality in strangulated inguinal hernia . But in comparison to femoral hernia which has more tendency to strangulate is rare in comparison to inguinal hernia [26].

CONCLUSION

Good pre-operation assessment and early management will decrease the morbidity and mortality in strangulated inguinal hernia.

Inguinal hernia should be operated as soon as it is reported and people should be told to get their hernias repaired early to avoid complications like obstruction and strangulation.

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