

A Study on Emergency Presentation of Abdominal Hernia in Adults

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Received: October 15, 2020; Accepted: November 17, 2020; Published Date: November 23, 2020

ABSTRACT

BACKGROUND: Patients requiring emergent surgery for hernia vary widely in presentation and management. As compared to elective hernia surgery, Emergency hernia surgery is associated with a higher postoperative complication and a less favorable outcome. The purpose of the study was to audit, emergency presentations of abdominal hernias and its outcomes at our center.

MATERIAL AND METHODS: The study was done at Department of General Surgery, Jawaharlal Nehru medical college, AMU, Aligarh from Dec 2017 to April 2019. It was a type of prospective observational study. Fifty three patients were included in the study. Patients were studied since admission till discharge and followed in the outpatient department.

RESULTS: Average age of acute abdominal hernia presentation was 45.05 years (ranges from 25 to 82 years). The most common types of hernia presented was an inguinal hernia (71.70%). The majority of the patients presented with inguinal hernia were males (94.7%). Patients having a long history of symptoms had more complications. 11.32% of patients required resection. The most common content of the sac was small bowel (69.81%).

CONCLUSION: The incidence of acute presentation of abdominal hernia was observed to be highest between 30 and 60 years and was more common in males than females. The incidence of complication was observed to be much higher in abdominal hernias having a long history of duration. Most of the patients were discharged within one week. The most common content of the sac was small bowel (69.81%). 11.32% of the patients required bowel resection. Single patient died having co-morbidity in the form of CKD.

KEYWORDS

Abdominal hernia; Emergency hernia surgery; Obstructed hernia

INTRODUCTION

Abdominal wall hernias are defects in the abdominal wall with protrusion of part of the abdominal contents through the defect. Abdominal wall hernias are the commonest external hernias, and they pose a surgical problem. There

is an incidence of 4-5% of abdominal wall hernias in general population [1]. Hernias are primarily classified by the location and content, the majority being inguinal hernias (75%), followed by femoral hernias (15%) and umbilical hernias (8%) [1]. Bowel obstruction,

Citation: Sajid Ali, A Study on Emergency Presentation of Abdominal Hernia in Adults. Clin Surg J 3(S4): 17-21.

incarceration, and strangulation are the most common complications of abdominal wall hernias [2]. Common presenting symptoms of complications of hernia are abdominal pain and distention. Further complications will lead to peritoneal signs, which will present as dehydration, discoloration of skin, and derangements of systemic vital signs [3]. Imaging studies are necessary to differentiate hernia from other causes of abdominal mass and abdominal pain, when symptoms or clinical assessment is confusing [4]. Imaging studies also help to evaluate the complications of hernia and associated systemic manifestations, improving patient outcome [5]. Less common complications include herniation of intra-abdominal viscera, which can be either solid (e.g., liver, kidneys) or hollow (e.g., stomach, bladder). Complications following surgical hernia repair are not uncommon with an incidence of 50%, depending upon the preoperative hernial sac contents and integrity of the vasculature and the operative technique adopted. Accurate detection of complications by MDCT helps in planning appropriate treatment 6-8. Several other abdominal wall diseases may pose a diagnostic dilemma at physical examination and some may be difficult to differentiate from hernia. Benign abdominal wall tumors like lipomas, fibromas, hemangiomas, and less-frequently malignant tumors and metastases can be confused with hernias. Metastases to abdominal wall are either a direct invasion by intraabdominal lesions or occur secondary to vascular spread [9]. Present study was done to observe various presentations and outcomes related to abdominal hernia presenting as acute emergency in terms of age and sex incidence, types of hernia that present as an acute emergency, sac contents, duration of hernia to occurrence of complications, surgery done, and the complications of surgery.

MATERIALS AND METHODS

The study was a type of prospective observational study done at Department of General Surgery, Jawaharlal Nehru medical college, AMU, Aligarh from Dec 2017 to

April 2019. A total of 53 patients was included in the study.

Inclusion Criteria

1. Age more than 18 years.
2. All patients with abdominal hernia presenting with
3. Groin or abdominal Pain + Irreducible hernia.
4. Features suggestive of intestinal obstruction (abdominal pain, abdominal distension, vomiting, inability to pass stool and flatus).
5. Strangulation (tenderness present).

Exclusion Criteria

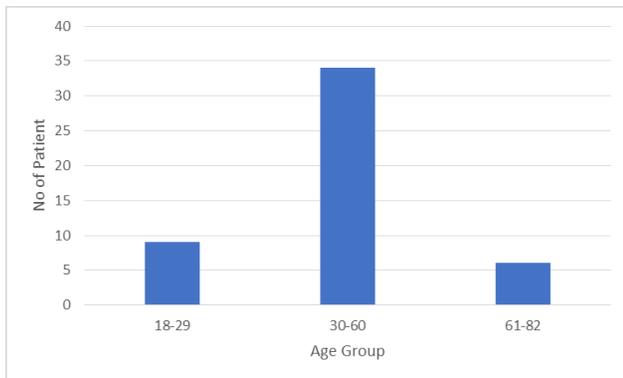
1. Age less than 18 years.
2. Patients that did not require surgical intervention.

Fifty three patients were included in the study. Informed and written consent were obtained from all patients or their attendees before surgery. All patients were studied from the time of admission till discharge and followed up in the out-patient department. A detailed history and thorough examination were done and data recorded. Hemoglobin, kidney function tests, serum electrolytes, arterial blood gas analysis, electrocardiogram, chest x-ray, abdomen erect and supine x-ray, and ultrasonogram of the abdomen and scrotum were done. Various observations were noted intra-operatively as well as post-operatively.

RESULTS

The average age of the patient presented was 45.09 ± 15.38 years. The maximum number of patients fell in the category of 30 years - 60 years. (Graph 1) Most common symptoms of presentation were pain (64.15%) and irreducible swelling (60.03%) in the groin, followed by abdominal distention (24.52%), vomiting (13.2%). (Table 1) The highest number of patients reported were of inguinal hernia (71.70%) followed by incisional hernia (24.53%) and umbilical hernia (3.77%) (Table 2) Most common content of the sac was small intestine (69.81%)

followed by momentum (16.9%). The rest of the contents of the sac are shown in the (Table 3). Tissue repair of defect was done in 52.84% patients and mesh repair at 47.16%. 11.32% of the patients required either resection & anastomoses or proximal ileostomy. Orchiectomy was done in only 3.77% of the patient. Bladder repair was done in only single patient. (Table 3) Majority of the patients were discharged without complications (66.03%), wound infection occurred in 20.75% of patients. (Table 5). Single patient died having co-morbidity in form of CKD. Most of the patients (66.04%) were discharged within one week, 28.3% of the patients were discharged after 2 weeks and remaining 5.66% of the patients required admission for more than 2 weeks (Graph 2). 80% of the Patients having a long history of symptoms (>2 years) required bowel resection/ileostomy/orchiectomy/bladder repair. While patients having a history of less than 2 years duration, only 20% of them required bowel resection.



Graph 1: Showing age distribution of hernia.

Symptoms	No. of Patients	Percentage
Pain	34	64.15%
Irreducibility	32	60.03%
Distension	13	24.52%
Vomiting	7	13.2%

Table 1: Showing symptoms of acute hernia.

Types of Hernia	No. of Patients	Percentage
Inguinal hernia	38	71.70%
Incisional hernia	13	24.53%
Umbilical hernia	2	3.77%
Grand Total	53	100.00%

Table 2: Showing incidence of types of hernia.

Sac Content	No. of Patients	Percentage
Small Bowel	37	69.81%
Omentum	9	16.9%
Small bowel, omentum	4	7.5%
Omentum, small bowel, descending colon	1	1.88%
Sigmoid colon	1	1.88%
Urinary bladder, small bowel	1	1.88%
Grand Total	53	100%

Table 3: Showing contents of sac.

Surgery Done	No. of Patients	Percentage
Mesh repair	25	47.16%
Tissue repair	28	52.84%

Table 4: Showing type of surgery done.

Complication	No. of patients	Percentage
No complication	35	66.03%
Wound infection	11	20.75%
Seroma	4	7.54%
Chest infection	2	3.77%
Death	1	1.88%

Table 5: Showing post-operative complications.

DISCUSSION

Out of the total 341 inguinal hernias presented in JN medical college, 38 groin hernias presented acutely (11.14%). As per Paola et al, the incidence of emergency admissions in inguinal hernias is 10%10. In an extensive study conducted by the Bay-Nielsen and colleagues, 4% of all groin hernia repairs were emergencies [11]. The majority of the patients with abdominal hernias who presented acutely in our study were 30 to 60 years, with the average age being 45.09 years. Incidence is observed to be higher in males when compared to females, 77.35% in males and 22.65% in females. In standard literature, the incidence of acute hernia is higher in males than females, probably due to the higher incidence of groin hernias in males than females [12]. Andrews et al. [13] and McEntee et al. [14] reported that more men had complicated groin hernias than women. In a study conducted by Shakya et al. [15] also showed the incidence of acute groin hernias to be higher in males than females, 88.5% in males and 11.5% in females. The present study is consistent with the previous studies. In this study, the complications were more often with the right sided groin hernias when compared to left sided

hernias. The majority of our cases were right sided hernias, 78% right sided and 22% left sided hernias. The anatomical basis of this may lie in the attachment of the small bowel mesentery and so bowel loops attached to the right of the midline can more easily remain in the right groin than those attached to the left.

The most common symptoms of presentation were pain (64.15%) and irreducible swelling (60.03%) in the groin, followed by abdominal distention (24.52%), vomiting (13.2%) (Table 1). Joseph B Mabula et al. found the most common content of the sac was small bowel (24.8%) followed by momentum (20.4%). This finding is consistent with our study.

In this study, the rate of small bowel resection was 11.32%, which is comparable to published series [16, 17]. In addition, patients having a longer duration of symptoms tended to be longer and with delayed hospitalization had poor outcomes and prolonged in-patient stay [16, 17]. In 1971, an analysis of Medicare discharges for uncomplicated inguinal hernia demonstrated that 94% of patients underwent repair with a mortality rate of 0.005%. However, the death rate for

obstructing hernias was increased 10-fold [17]. The review of Ohana et al. recommended that patients with asymptomatic inguinal hernia and unfavorable medical conditions should undergo elective repair, preferably under local anesthesia, in order to avoid the high mortality associated with an emergency operation.

CONCLUSION

Elective repair of hernias should be performed whenever possible. The incidence of acute presentation of abdominal hernia was observed to be highest between 30 and 60 years and was more common in males than females. The incidence of complication was observed to be much higher in abdominal hernias will have a long history of duration and decreasing in frequency thereafter. Pain and irreducibility were the chief presenting features in all patients followed by vomiting and abdominal distension. The majority of the patients were discharged within a week, patients that required longer duration were due to complications or co-morbidities. The most common content of the sac was small bowel (69.81%). 11.32% of the patients required bowel resection. Single patient died having co-morbidity in the form of CKD.

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