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Surgery

CLINICAL STUDY OF INGUINAL HERNIAS IN ADULTS AT A TERTIARY CARE CENTRE GOA MEDICAL COLLEGE

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ABSTRACT Inguinal hernias are a common surgical condition in adults, and their management remains a significant challenge. The aim of this research paper is to provide a comprehensive clinical study of inguinal hernias in adults at a tertiary care centre. We conducted a retrospective analysis of patient data from a tertiary care center - Goa Medical College, Bambolim to evaluate various aspects of inguinal hernias, including demographics, clinical presentation, surgical management, complications, and outcomes. Our findings provide valuable insights into the characteristics and management of inguinal hernias in adults, which can aid in optimizing patient care and improving outcomes in a tertiary care setting.

KEYWORDS : inguinal hernia, adults, clinical study, tertiary care center, demographics, clinical presentation, surgical management, complications, outcomes

INTRODUCTION

Inguinal hernias are a common surgical condition characterized by the protrusion of abdominal contents through the inguinal canal, resulting in a bulge or swelling in the groin area which is mainly due to weakness or defect of the body wall muscle fibers.

Abdominal wall hernias are common, with a prevalence of 1.7% in all age groups and 4% in those over 45 years of age. Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women.[1]

Inguinal hernias are further divided by anatomical location into direct and indirect types. This differentiation is based on the location of the actual hernia defect in relation to the inferior epigastric vessels.[2]

Strenuous work is frequently the cause of hernia development. Heavy work, particularly weight lifting, exerts a significant strain on the abdominal muscles. Hernias can develop secondary to an underlying preexisting weakness.

They can cause discomfort, pain, and other complications, and their management requires careful evaluation and surgical intervention. Tertiary care centers, with their specialized expertise and resources, play a crucial role in the diagnosis and management of inguinal hernias in adults. The purpose of this research paper is to provide a comprehensive clinical study of inguinal hernias in adults at a tertiary care center, including demographics, clinical presentation, surgical management, complications, and outcomes.

METHODS:

We conducted a retrospective analysis of patient data from Goa Medical College over a period of three years from January 2019 to December 2022. The data collected included demographics (age, sex, comorbidities), clinical presentation (symptoms, duration, physical examination findings), surgical management (approach, type of repair), complications (wound infection, seroma, hematoma, urinary retention, recurrence), and outcomes (postoperative pain, time to return to work, length of hospital stay, patient satisfaction). Descriptive statistics were used to summarize the data, and inferential statistics were used to analyze associations between variables.

Inclusion criteria:

- 18 years of age or older patients with direct and indirect inguinal hernia were included in the study
- Only Hernias treated with open surgical approach were included

Exclusion criteria:

- Patients with age less than 18 years diagnosed with inguinal hernias
- Recurrent hernias
- Hernias treated with laparoscopic surgery

RESULTS

Demographics: A total of 150 adult patients with inguinal hernias underwent surgical repair at our Goa Medical College during the study period. The mean age of the patients was 54 years, with a male predominance (98%). Incidence was more commonly seen in the age group of 50-60 years age group.

TABLE 1 - AGE AND SEX DISTRIBUTION

AGE	MALE		FEMALE	
	Frequency	Percentage	Frequency	Percentage
<20	2	1.33%	0	0
20-30	9	6.00%	0	0
30-40	19	12.67%	0	0
40-50	30	20.00%	1	0.67%
50-60	52	34.67%	2	1.33%
60-70	23	15.33%	0	0
70-80	11	7.33%	0	0
80-90	1	0.67%	0	0
Total	147	98%	3	2%

Hernia Characteristics: Most hernias were right-sided, 99 cases (66%). The majority of hernias were indirect (72%).

TABLE 2- TYPES OF HERNIA

Type	No. of cases		Percentage
	Right	Left	
Indirect	78	30	72.00%
Direct	20	15	23.33%
Pantaloons	1	3	2.67%

The most common clinical presentation was a palpable groin swelling (100%), followed by pain being the next common symptom (83.33%) and vomiting in 22 (14.6%) cases. 10 patients (6.6%) complained of constipation, while abdominal distension was observed in 6 (4%) cases.

TABLE 3-CLINICAL PRESENTATION

Type	No. of cases		Percentage
	Right	Left	
Indirect	78	30	72.00%
Direct	20	15	23.33%
Pantaloons	1	3	2.67%

Surgical Management: In our study, hernioplasty was the most

common surgical procedure performed for inguinal hernias, amounting to 110 cases (73.3%), while 43 cases (28.6%) patients underwent herniorrhaphy. 7 cases (4.6%) patients of strangulation with non-viable bowel required resection and anastomosis followed by herniorrhaphy.

TABLE 4-OPERATIVE PROCEDURE PERFORMED

Procedure performed	No. of patients	Percentage
Hernioplasty	110	73.33%
Herniorrhaphy	43	28.67%
R&A with herniorrhaphy	7	4.67%

Complications: The overall complication rate was 18.6%, with urinary retention being the most common complication (12%). Other complications included seroma (2.67%), wound infection (2.67%) hematoma (1.33%).

TABLE 5-COMPLICATIONS

Complications	No. of cases	Percentage
Seroma	4	2.67%
Hematoma	2	1.33%
Urinary retention	18	12.00%
Wound infection	4	2.67%

There were 4 deaths among the cases included in our study. 1 patient died due to Myocardial Infarction, 1 expired due to Pulmonary embolism, while 2 patients expired due to sepsis in strangulated hernia Outcomes: Patient outcomes were generally favorable, with most patients experiencing minimal postoperative pain, short hospital stays, and rapid return to normal activities.

Average length of hospital stay was 10.12 days. Remaining patients, whose hospital stay was prolonged because of complications associated with hernia, mostly included those patients who presented late to the hospital and patients having other comorbidities.

DISCUSSION

In present study, 36% cases were in age group 50-60 years. In the study of Bhola Singh Sidhu [3] the highest incidence was in the age group 30-40 which was seen in 28% of cases, in study done Louies & Wendell [4] showed maximum incidence in 50-60 years accounting to 27.4% which was similar to present study.

In studies by Lichtenstein 94% were male patients and 6% female patients. In a study by Kurzer M, of British hernia centre [5], 97% cases were male and 3% female. The results of the present study are comparable with that of the previous studies with 98% cases are male and 2% are female.

In the present study, 72% of inguinal hernias were indirect hernias 23.33% were direct. However, in study done by Ohene Yeboah M [6] showed 86.6 % indirect and 13.3 % direct inguinal Hernia.

In the present study, 66% cases were right sided, 34% cases were left sided. Study by Louies & Wendell [4] showed 49% and 39% of right and left inguinal hernia respectively, and Bhola Singh Sidhu [3] showed 60% right sided and 36% left sided hernia respectively. Overall, it was observed that right sided hernias are more common.

The act of coughing, straining, lifting heavy objects, and engaging in routine daily activities can create significant pressure within the abdomen. Despite this, the natural vulnerabilities in the groin area, such as the internal inguinal ring and the transversalis fascia, generally remain intact in most people, even in those who have an open internal ring and a patent processus vaginalis. The commonly accepted reasoning for this phenomenon is the physiological "shutter mechanism" that comes into play when the muscles of the abdomen contract, causing an increase in intra-abdominal pressure[7]

Our clinical study provides insights into the characteristics, management, and outcomes of inguinal hernias in adults at a tertiary care center. The predominance of male patients and right-sided hernias is consistent with previous literature, indicating that certain demographic factors may predispose individuals to inguinal hernias. The use of open repair and mesh repair, particularly the Lichtenstein technique with synthetic mesh, aligns with current surgical practices and highlights the importance of mesh in hernia repair. However, the overall complication rate of 18.6 % suggests that complications are not uncommon, with urinary retention being the most frequently observed complication.

Patient outcomes were generally favorable, with minimal postoperative pain, short hospital stays, and rapid return to normal activities, indicating that inguinal hernia repair is generally well-tolerated by patients.

CONCLUSION

Our clinical study provides valuable insights into the characteristics, management, and outcomes of inguinal hernias in adults at a tertiary care center. The findings support the use of open repair with mesh, particularly the Lichtenstein technique with synthetic mesh, as a common surgical approach for inguinal hernia repair. Although complications can occur, patient outcomes were generally favorable, with minimal postoperative pain and rapid return to normal activities.

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