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Research Article

Incidence and Risk Factors of Inguinal Hernia in a Kashmiri Population

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Abstract

Background: One of the most prevalent surgical diseases is inguinal hernia. However, research on clinical characteristics that predispose a person to developing an inguinal hernia is limited.
Aims and objective: The present study was to evaluate the incidence and risk factors for the development of inguinal hernia in adult males.
Material and Methods: The study was done for a period of one year among the people attending surgical outpatient and inpatient department at SKIMS Hospital, Srinagar.
Results: There were 260 inguinal hernia patients in the research, 95 percent of them were men, and the majority (23 percent) were between the ages of 41 and 50. At the time of first presentation, 23.8 percent of patients had bilateral inguinal hernia. Heavy item lifting, persistent cough, and other co-morbid illnesses were identified to be prevalent risk factors.
Conclusion: The study found a slightly higher frequency of bilateral inguinal hernia in the productive group, with the most prevalent risk factors being persistent cough and excessive weightlifting.

Keywords: Inguinal hernia, Risk factors, Bilateral Inguinal hernia, Constipation, Pantaloon hernia

Introduction

An inguinal hernia is a condition in which intra-abdominal fat or part of the small intestine, also called the small bowel, bulges through a weak area in the lower abdominal muscles. An inguinal hernia occurs in the groin—the area between the abdomen and thigh. This type of hernia is called inguinal because fat or part of the intestine slides through a weak area at the inguinal ring, the opening to the inguinal canal. An inguinal hernia appears as a bulge on one or both sides of the groin. An inguinal hernia can occur any time from infancy to adulthood and is much more common in males than females. Inguinal hernias tend to become larger with time.
A protrusion of the abdominal cavity and its contents through the inguinal canal is known as an inguinal hernia. It is quite frequent in men, with a lifetime risk of 27% for men and 3% for women[1]. Inguinal hernia repair is a frequent general surgery treatment done on both adults and children, with inguinal hernias accounting for more than 95% of all groin hernia surgeries. [2] Inguinal hernias can be acquired or congenital. Increased abdominal pressure, pre-existing abdominal muscular weakness, straining during defecation, excessive lifting of weights, obesity, pregnancy, and other conditions were cited as risk factors and causes for inguinal hernias. Several explanations have been presented for the aetiology of inguinal hernia; nevertheless, large-scale data on the occurrence of inguinal hernia may provide more insight into the pathophysiology of inguinal hernia development. The goal of this study was to determine the prevalence, age and gender disparities, and risk factors related with inguinal hernias. Muscle weakness (previous appendectomy or other abdominal operations), physical stress, increased

intra-abdominal pressure (chronic constipation and prostate enlargement), smoking, ageing, connective tissue disease, and systemic illnesses were all found to be risk factors for inguinal hernia in male populations. [3] Obesity, pregnancy, and operational procedures have all been identified as risk factors for the development of inguinal hernia in women. The goal of this study was to look into the many elements of inguinal hernia and how it manifests itself in the adult Kashmiri population.

Aims and Objectives

1. To estimate the incidence of inguinal hernia among different age groups
2. To assess the risk factors influencing the development of inguinal hernia and determine among which factors inguinal hernia prevalence is more common.

Materials and Methods

This investigation was done as a hospital-based observational study among people attending surgery outpatient and inpatient departments in a tertiary care center. The study participants were first questioned using a questionnaire that contained socio demographic information as well as groin swelling symptoms. After receiving informed consent, study participants who presented to the hospital with complaints of groin swelling with or without pain were interviewed in depth about the duration of the swelling, family history of inguinal hernia, lifestyle habits, and nature of job, chronic constipation and cough, and co morbidities. The individuals who complained of groin swelling were then thoroughly examined. During the clinical examination, the goal of the examination was communicated to the patients, and privacy and confidentiality were assured. Clinically noticeable swelling in the groin or a clearly palpable defect in the abdominal wall in the groin were used to identify an inguinal hernia. Reducibility and cough impulse were the most important clinical symptoms utilized to detect hernia. There was no attempt to differentiate between indirect and direct hernias. Using data from the questionnaire and examination, we looked at the links between hernia and a variety of other illnesses and features. Chronic constipation, obstructive pulmonary and urinary tract disease, trauma to the inguinal region or lower abdomen, pelvic fractures, and a family history of inguinal hernia, including gender and relation to the family member, were all specifically asked about to see if there was a familial tendency. In addition, the time of exposure for both current and previous job activities was recorded.

Results

Our study included 260 patients presenting with symptomatic or minimally symptomatic inguinal hernia. Among 260 persons, 250 were males and 10 were females(table 1:2). The age-distributed incidence rates of inguinal hernia among the study population was 6%, 3%, 9%, 17.6%, 23%, 18.4%, 13%, 9% ,in less than 10 years, 11 to 20years, 21 to 30 years, 31 to 40 years , 41 to 50, 51 to 60 years ,61 to 70 years and 70 years above respectively(Table1:1). As far as the presentation of inguinal hernia was concerned 52.3% had right sided hernia and 23.8% had left sided hernia. Bilateral inguinal hernia was present among 23.8%) of the study population (Table1:3). Around 5.38% cases had family history of hernias, 3.84% cases with bowel disturbances like chronic constipation, 16.15% cases had bladder disturbances like frequent urination, 10.76% cases had history of chronic cough. While assessing their lifestyle habits 16.92% cases were chronic smokers and 5.38% cases were alcoholics. By assessing the occupational status of all patients, 25.38% cases were found to be having positive history of heavy object lifting. As mentioned above, few cases were presented with other co morbidities.

Table 1:1 Age wise distribution of inguinal hernia

Sl.no	Age group	No. of patients	% of patients
1.	1-10	16	6
2.	11-20	8	3
3.	21-30	24	9
4.	31-40	46	17.6
5.	41-50	60	23

6.	51-60	48	18.4
7.	61-70	34	13
8.	Above 70	24	9

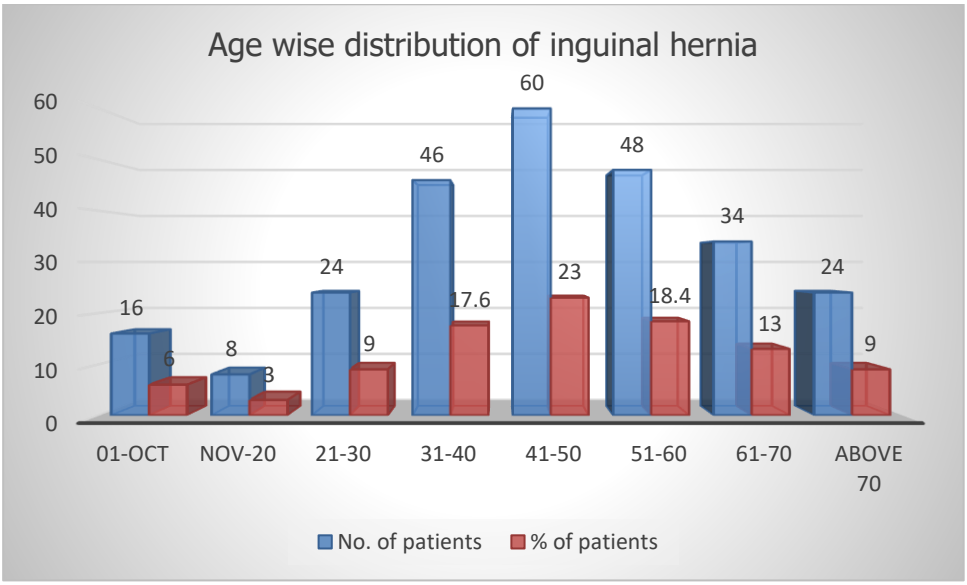


Table 1:2 Sex wise distribution of inguinal hernia

Sl.no	Sex wise	No of patients	% of patients
1.	Male	250	95
2.	Female	10	5

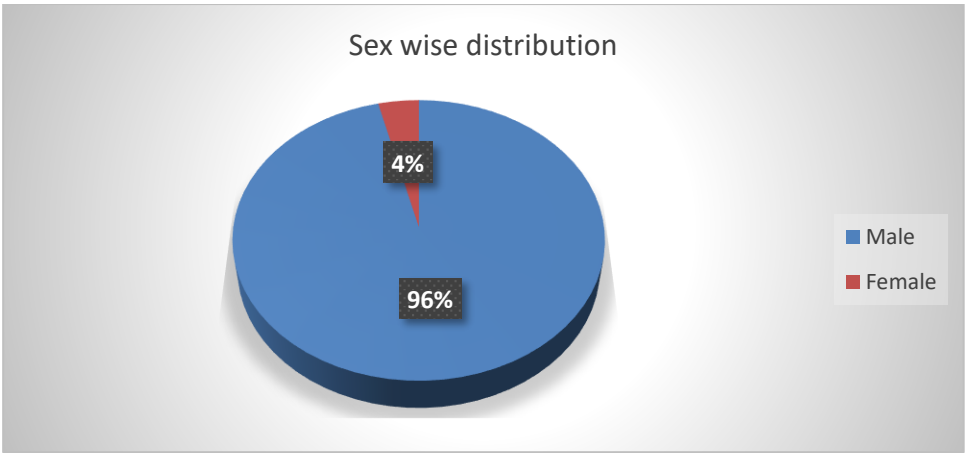


Table 1:3 Side wise distribution of inguinal hernia

Sl.no	Side wise	No of patients	% of patients

1.	Right	136	52.3
2.	Left	62	23.8
3.	Bilateral	62	23.8

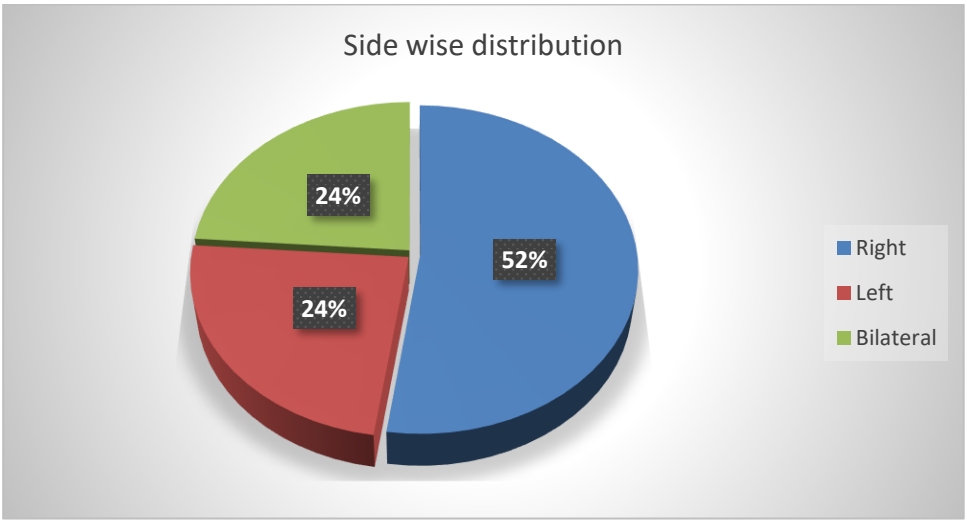


Table 1:4 Type of inguinal hernia

Sl.no	Type of Hernia	No of patients	% of patients
1.	Direct inguinal Hernia	160	61.55
2.	Indirect inguinal Hernia	74	28.46
3.	Pantaloon inguinal Hernia	10	3.84
4.	Congenital inguinal Hernia	16	6.15

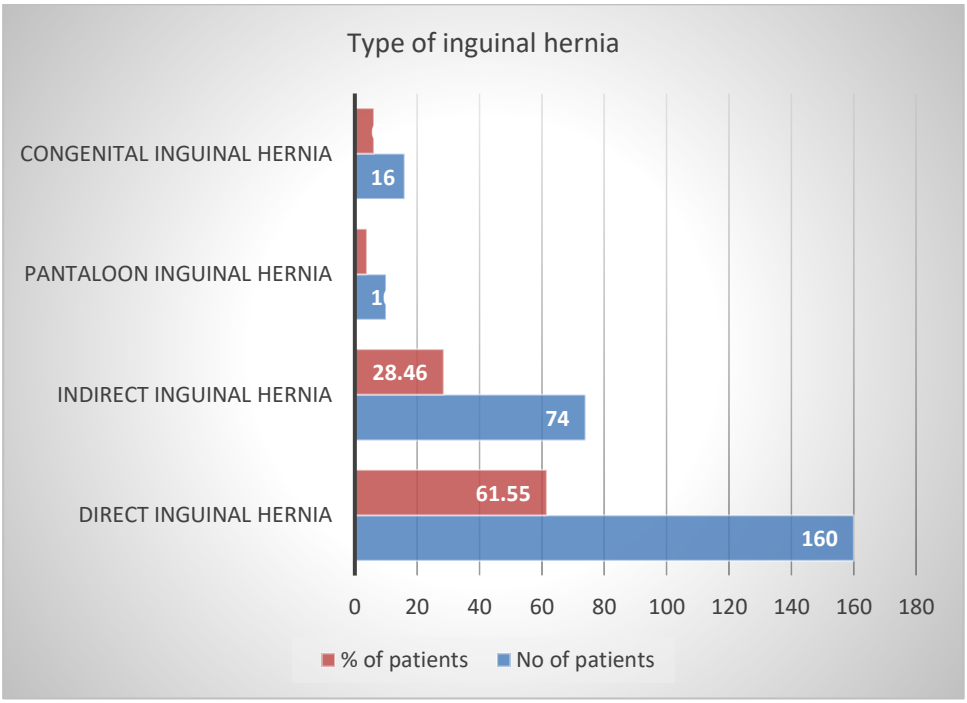
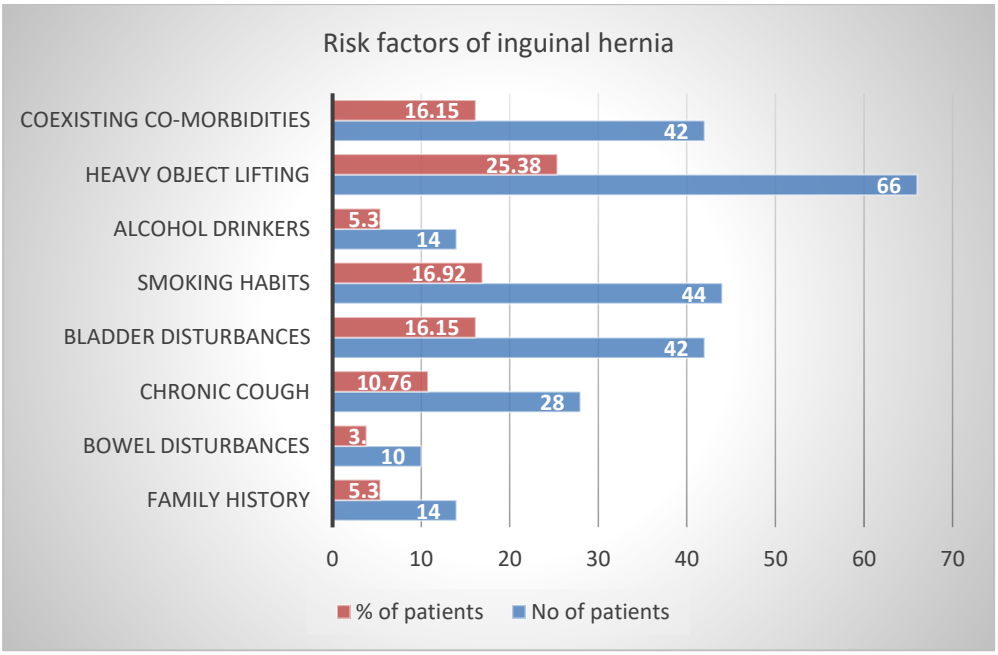


Table1:5 Risk factors of inguinal hernia

Sl.no	Risk factors	No of patients	% of patients
1.	Family history	14	5.38
2.	Bowel disturbances	10	3.84
3.	Chronic cough	28	10.76
4.	Bladder disturbances	42	16.15

5.	Smoking habits	44	16.92
6.	Alcohol drinkers	14	5.38
7.	Heavy object lifting	66	25.38
8.	Coexisting co-morbidities	42	16.15



Discussion

Our research looked at the evidence regarding inguinal hernias' age and gender distribution. According to the age-distributed prevalence rates, inguinal hernia prevalence peaked in the adult age range of 41–50, accounting for about 23% of inguinal hernias in this study, whereas Indrani Basu et al found that the peak incidence of inguinal hernia was 42–57 years[4]. In teenage age groups, it is far less prevalent. Many research contradicted this conclusion. However, several studies have found that the age distribution is bimodal, with peaks in early infancy and later life[5]. According to the findings, 250 of the 260 cases were males and 10 were females, indicating a male to female ratio of 25:1. This might be because males and females have different anatomical structures. Furthermore, ladies seek medical assistance for their hernias as soon as possible. The majority of individuals consult a doctor only when they are experiencing pain or discomfort that is limiting their activity[6]. It was also discovered that the majority of patients had reducible hernias, which means that the swellings may be driven back into the belly by laying down or applying physical pressure on it[7]. Our research looked at all of the potential risk variables that have been identified in the literature. Heavy item lifting was discovered to be the greatest risk factor for inguinal hernias. The findings revealed that people with a 10-year history of heavy item lifting were more likely to acquire inguinal hernias. About half of the individuals in these 260 instances were found to be working in physically demanding occupations. This is due to the fact that the bulk of the hospital's patients were low-income, industrial workers from the surrounding communities. Their primary vocation is industrial labour, which requires more physical activity, leading in greater abdominal pressure and the development of inguinal hernias. For these guys, a long-lasting repair is critical to avoid recurrence. Other contributory variables were straining during urine and faeces, as well as persistent cough in the case of tuberculosis. Inguinal hernias arise as a result of these causes increasing abdominal pressure. Muscles weaken in persistent smokers (22%), thereby increasing the chance of developing inguinal hernias. This research's risk variables were comparable to those identified in a study conducted in the United States, which demonstrated that inguinal hernia was linked to older age, obesity, larger height, chronic cough, and rural residence[10]. Many additional studies, such as Lau H et al and Junge K et al, have found that family history is a significant predictor of the

development of inguinal hernias and recurrent hernias[8]. Hypertension and diabetes were found in around 11 percent and 5% of patients, respectively[9], while chronic cough, chronic constipation, Chronic Diabetes, and Prostatic hypertrophy[10,11, 12] were also found. Prostate enlargement symptoms were reported in around 21% of the patients. A hernia can develop as a result of any action or medical condition that puts too much strain on the tissue in the belly wall and muscles. Prostatic hypertrophy and anal fissures, for example, both induce straining during urination and faeces. Prostatic hypertrophy and varicosities have also been linked to hernia in other studies.

Conclusion

The age distribution of inguinal hernia repair peaked at adulthood, with a male preponderance of 25:1 male to female ratio, according to this incidence analysis. Heavy item lifting and persistent cough were found to be substantial risk factors for inguinal hernia in males in our investigation. The existence of these indicators should now urge the clinician to consider inguinal hernia as a diagnosis in patients with unexplained lower abdomen discomfort. This information might serve as a starting point for developing new disease-cause theories. These findings are judged to be a valuable reference for future investigations on the occurrence of inguinal hernias in general populations.

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