

## Study of Prevalence and Risk Factors of Inguinal Hernia

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### Abstract

Hernia is the protrusion of an organ through an abdominal opening in the muscle wall of the cavity that surrounds it. Inguinal hernias are the most common form of abdominal wall hernias. It is common in men with life time risk of 27% and 3% for women. This observational study was done in Department of Surgery of RIMS Medical college and hospital, Adilabad . All the study subjects had come to the hospital with complaints of groin swelling with or without pain. The present study was conducted to assess the prevalence and risk factors of inguinal hernia. Data was expressed in frequency and percentage distribution. 53.33 % patients were in group of 36-50 years. 55 % patients had right sided hernia. 75 % were indirect inguinal hernia . 66.66 % had Period of swelling for less than 1 year. Lifting heavy objects , Diabetes, Alcoholism, COPD were main risk factors for inguinal hernia.

**Keywords:** Inguinal hernia, risk factors

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### Introduction

An Inguinal hernia is a protrusion of abdominal cavity and its contents through the inguinal canal. It is common in men with lifetime risk of 27% and 3% for women. [1 ]Inguinal hernias are the most common form of abdominal wall hernias. The incidence of inguinal hernia is unknown, but about 500,000 cases come to medical attention each year. [2] The protrusion from the abdominal cavity through the inguinal canal is called inguinal hernia. This is the most common type of hernia and affects chiefly men. [3] If is often said to be associated with aging and repeated strain to the abdominal muscles. The prevalence of the abdominal wall hernia is estimated to be 1.7% for all ages and 4% of those who are over 45 years of age. The inguinal hernias account for 75% of the abdominal hernias with a

life time risk of 27% in males and 3% in the females. [4] Repair of the inguinal hernias is one of the most common operations in the general surgery, with rates ranging from 10 per 100,000 of the population in England and about 28 per 100 000 in the United States. [5] Inguinal hernia repair is a commonly performed general surgery procedure in both adults and children with inguinal hernias constituting more than 95% of all groin hernia repairs [6]. The common sites of herniation are the groin, umbilicus, Linea Alba, semilunar line of Spiegel, diaphragm and surgical incisions [7]. The well known risk factors and causes of the inguinal hernias have been reported as increased abdominal pressure, pre-existing weakness of abdominal muscles, straining during defecation, heavy lighting of weights,

obesity, pregnancy etc. Although several hypotheses regarding the etiology of inguinal hernia have been proposed, large-scale data on the occurrence of inguinal hernia may provide further understanding to the pathophysiology of inguinal hernia development [8,9]. The present study was conducted to assess the prevalence and risk factors of inguinal hernia.

### Material and Methods

This observational study was done in Department of Surgery of RIMS Medical college and hospital, Adilabad. All the study subjects had come to the hospital with complaints of groin swelling with or without pain. After obtaining informed consent from all the participants, demographic details were taken by means of a questionnaire, which included the patient's identity, family history, life style habits, nature of job, duration of swelling, cough, constipation and comorbidities. A thorough clinical examination was performed by the surgeon and the nature of the examination, privacy and

confidentiality was explained to the patient. Details of the hernia, such as the type of hernia, primary or recurrent, time gap between present and the primary operation, nature of mesh used, time of recurrence and nature of the final repair were also noted. The patient was palpated at each groin to observe if there was a visible and clearly palpable hernia, a palpable impulse or a previous operational scar. Clearly visible hernias were identified by a visible lump. If its neck was continuous with the inguinal canal or directed backwards into the abdomen, it was diagnosed as a palpable hernia. If there was no visible lump, the scrotum was invaginated by the little finger to reach the external ring, and the subject was asked to cough, in order to determine whether there was a palpable impulse. Scarring at the site was taken as recurrence of hernia. Data was expressed in frequency and percentage distribution.

### Results

**Table 1: Age wise distribution of patients**

Age group	Number of patients (n = 60)	Percentage
10-20 years	02	3.33%
21 -35 years	14	23.33%
36-50 years	32	53.33%
>50 years	12	20%

**Table 2: Distribution of Inguinal hernia according to side**

Side	Number of patients (n = 60)	Percentage
Right	33	55%
Left	22	36.66%
Bilateral	05	8.33%

**Table 3: Distribution of Inguinal hernia according to type**

Type of Inguinal hernia	Number of patients (n = 60)	Percentage
Indirect	45	75%
Direct	15	25%

**Table 4: Risk factors for Inguinal hernia**

Risk factors	Number of patients (n = 60)	Percentage
Diabetes	28	46.66%
COPD	22	36.66%
Alcoholism	25	41.66%
Lifting heavy objects	35	58.33%
BPH	10	16.66%
Family history	15	25%

**Table 5: Period of swelling**

Period of swelling	Number of patients (n = 60)	Percentage
< 1 year	40	66.66%
1-3 years	12	20%
>3 years	08	13.33%

53.33% patients were in group of 36-50 years. 55% patients had right sided hernia. 75% were indirect inguinal hernia. 66.66% had Period of swelling for less than 1 year. Lifting heavy objects, Diabetes, Alcoholism, COPD were main risk factors for inguinal hernia.

### Discussion

A hernia occurs when an internal part of the body pushes through a weakness in the muscle or surrounding tissue wall. In many cases, hernias cause no or very few symptoms, although you may notice a swelling or lump in your tummy (abdomen) or groin. The lump can often be pushed back in, or will disappear when you lie down. Coughing or straining may make the lump appear. Hernia is considered a complication of PD. The pathophysiology is based on the concept of increased abdominal pressure (mechanical effect) affecting a weak abdominal wall. [10]

In present study 53.33% patients were in group of 36-50 years. 55% patients had right sided hernia. 75% were indirect inguinal hernia. 66.66% had Period of swelling for less than 1 year. Lifting heavy objects, Diabetes, Alcoholism, COPD were main risk factors for inguinal hernia.

A study by Balram et al., wherein, 42-50 years age group was the most common age group in Jalaun, Uttar Pradesh [11]. It is relatively less common in adolescent age groups. This evidence was not supported by many studies. But in some studies it is shown that age distribution is bimodal peaking at early childhood and old age [12]. Russel et al. found a 57% incidence of inguinal hernia [13]. The incidence of hernia was higher among males who were addicted to smoking (13.63%). The risk

factor of smoking was not found in females. All of these males had an inguinal hernia. Smokers have a fourfold risk of hernia [14] Studies of connective tissue from patients with inguinal hernia have shown that smoking may be associated with hernia formation due to a defective connective tissue metabolism. In a study, the overall recurrence rate was 30.30% and smoking and age were the major risk factors for recurrence. Kumar et al. wherein 68% of the patients had swelling for less than 1 year. Diet, diseases and personal habits of the patients are known to affect and cause recurrence of inguinal hernia. [15,16]

### Conclusion

In present study 53.33% patients were in group of 36-50 years. 55% patients had right sided hernia. 75% were indirect inguinal hernia. 66.66% had Period of swelling for less than 1 year. Lifting heavy objects, Diabetes, Alcoholism, COPD were main risk factors for inguinal hernia. These type of studies need to be conducted in every geographical area so that it can be helpful for future studies in prediction of the prevalence of inguinal hernias.

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