

## Study on the Evaluation of the Prevalence and Risk Factors of Inguinal Hernia: An Institutional Based Study

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### ABSTRACT

**Background:** Inguinal hernia is one of the most common surgical pathology. It is the most common form of abdominal wall hernia and occurs more frequently among adult men. The present study was conducted to evaluate the prevalence and risk factors of inguinal hernia.

**Materials and Methods:** The present study was carried out among 300 adult patients of inguinal hernia in the Department of General Surgery, Shri Shankaracharya Institute of Medical Sciences, Junwani, Bhilai, Chhattisgarh, India. The demographic data was collected, and complete clinical examination was done. Data obtained was tabulated and statistical analysis was performed using SPSS version 21.0 statistical software (SPSS, Chicago, IL).

**Results:** In the present study total patients were 300 & inguinal hernia was prevalent in males (95%). Maximum patients were of age group 51-60 yrs (37%) and minimum (9%) were of age group >60yrs. The most common cause for the presence of hernia was lifting heavy objects (21%) and least common cause was Benign hypertrophy of prostate (2.33%).

**Conclusion:** The present study concluded that inguinal hernia

was prevalent in males (95%). Maximum patients were of age group 51-60yrs. The most common cause for the presence of hernia was lifting heavy objects.


**Keywords:** Inguinal Hernia, Benign Hypertrophy of Prostate, Abdominal Wall Hernia.

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### INTRODUCTION

Hernia is defined as the abnormal protrusion of a part or structure through the tissues that normally contain it. The parts of hernia are sac, neck and contents. Most commonly it contains fat and the intestine.<sup>1</sup> Inguinal hernia is one of the most common surgical pathology. It is the most common form of abdominal wall hernia and occurs more frequently among adult men.<sup>1</sup> The incidence of inguinal hernia is unknown, but about 500,000 cases come to medical attention each year.<sup>2</sup> Inguinal hernias are much more common among men than among women. They may also be more common among Whites and older adults.<sup>3</sup> 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 lifting 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.<sup>4</sup> Despite the common occurrence and the clinical

significance of this condition, only few studies carried out to investigate the risks for its development. The present study was conducted to evaluate the prevalence and risk factors of inguinal hernia.

### MATERIALS AND METHODS

The present study was carried out among 300 adult patients of inguinal hernia in the Department of General Surgery, Shri Shankaracharya Institute of Medical Sciences, Junwani, Bhilai, Chhattisgarh, India. Before the commencement of the study ethical approval was taken from the ethical committee of the institute and written informed consent was obtained from the patients. All the study subjects had come to the hospital with complaints of groin swelling with or without pain were included in the study. The demographic data was collected, and complete clinical examination was done. Details of the hernia, such as the type of hernia, primary or recurrent was 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 obtained was tabulated using Microsoft Excel (MS Excel 2010, Microsoft Corporation). Statistical analysis was performed using SPSS version 21.0 statistical software (SPSS, Chicago, IL).

**Table 1: Prevalence of inguinal hernia on the basis of demographic details**

Variables	N(%)
<b>Gender</b>	
Male	285(95%)
Female	15(5%)
<b>Age groups (years)</b>	
<30 years	63(21%)
31-40	30(10%)
41-50	69(23%)
51-60	111(37%)
>60	27(9%)

**Table 2: Risk factors for inguinal hernia**

Risk factors	N(%)
<b>Family history</b>	21(7%)
<b>Smoking</b>	30(10%)
<b>Alcoholism</b>	59(19.66%)
<b>Lifting heavy objects</b>	63(21%)
<b>COPD</b>	60(20%)
<b>Bowel disturbances</b>	37(12.33%)
<b>Diabetes</b>	15(5%)
<b>Benign hypertrophy of prostate</b>	7(2.33%)
<b>Unknown</b>	8(2.66%)
<b>Total</b>	300(100%)

## RESULTS

In the present study total patients were 300 & inguinal hernia was prevalent in males (95%). Maximum patients were of age group 51-60yrs (37%) and minimum (9%) were of age group >60yrs. The most common cause for the presence of hernia was lifting heavy objects (21%) and least common cause was Benign hypertrophy of prostate (2.33%).

## DISCUSSION

Inguinal hernia is predominantly a male disease, and the incidence increases with age. A national survey of general practices, covering about 1% of the population of England and Wales in 1991-1992, found that about 95% of people presenting to primary care settings with inguinal hernia were males. It also found that the incidence rose from about 11/10,000 person-years in men aged 16-24 years to about 200/10,000 person-years in men aged 75 years and over.<sup>5</sup>

The incidence of inguinal hernia was much higher in men than in women.<sup>6</sup>

In a study by Kumar R et al, 48.8% had hernia due to lifting heavy objects, with smoking habits and chronic cough being the other common risk factors.<sup>4</sup> A study in USA conducted by Constance et al. found that the inguinal hernia was associated with older age, chronic cough, obesity, greater height, rural residence.<sup>7</sup>

Lau et al reported that family history of hernia was the most important determinant factor for developing inguinal hernia in adult males.<sup>8</sup>

Smoking, which may adversely affect connective tissue metabolism, has been proposed as a risk factor for inguinal hernia<sup>9</sup> and was associated with hernia recurrence among smokers in one study.<sup>10</sup>

## CONCLUSION

The present study concluded that inguinal hernia was prevalent in males (95%). Maximum patients were of age group 51-60yrs. The most common cause for the presence of hernia was lifting heavy objects.

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