

Assessment of risk factors of inguinal hernia

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Abstract

Background: 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. The present study was conducted to assess risk factors of inguinal hernia.

Materials & Methods: 94 cases of inguinal hernia of both genders were enrolled. Parameters such as the type of hernia, primary or recurrent was noted. Period of swelling, side and risk factors were recorded.

Results: Out of 94 patients, males were 60 and females were 34. Side was right in 28, left in 30 and bilateral in 36. Type of hernia was primary in 54 and recurrent in 40. Period of swelling was <1 year in 32, 1-2 years in 40 and >2 years in 22. The difference was significant ($P < 0.05$). Common risk factors for inguinal hernia were COPD in 24, lifting heavy objects in 88, alcoholism in 26, smoking in 34, diabetes in 30, family history in 11, bowel disturbances in 72 and age >60 years in 26. The difference was significant ($P < 0.05$).

Conclusion: Common risk factors for inguinal hernia were COPD, lifting heavy objects, age >60 years, alcoholism, smoking, diabetes, family history and bowel disturbances.

Keywords: Abdominal wall, inguinal hernia, peritoneum.

INTRODUCTION

A hernia occurs when an organ of the body pushes itself through an opening in the muscle or tissue that is supposed to hold it in place.¹ This type of hernia is most common in the abdominal region. This opening or the orifice is a defect in the innermost layer of the abdomen and the hernia is outpouch of the peritoneum.² Abdominal wall hernias only occur in certain areas namely, where aponeurosis and fascia are devoid of the protecting support of striated muscle. These may be acquired through muscular atrophy, surgery or trauma.³

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.⁴ 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.⁵ Although several hypotheses regarding the ethology 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.⁶ The present study was conducted to assess risk factors of inguinal hernia.

Materials & Methods

The present study comprised of 94 cases of inguinal hernia of both genders. All gave their written consent for the participation in the study.

Data such as name, age, gender etc. was recorded. Parameters 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. Period of swelling, side and risk factors were recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

Results

Table I Distribution of patients

Total- 94		
Gender	Males	Females
Number	60	34

Table I shows that out of 94 patients, males were 60 and females were 34.

Table II Assessment of parameters

Parameters	Variables	Number	P value
Side	Right	28	0.84
	Left	30	
	Bilateral	36	
Type of hernia	Primary	54	0.72
	Recurrent	40	
Period of swelling	<1 Year	32	0.12
	1-2 years	40	
	>2 years	22	

Table II, graph I shows that side was right in 28, left in 30 and bilateral in 36. Type of hernia was primary in 54 and recurrent in 40. Period of swelling was <1 year in 32, 1-2 years in 40 and >2 years in 22. The difference was significant (P< 0.05).

Graph I Assessment of parameters

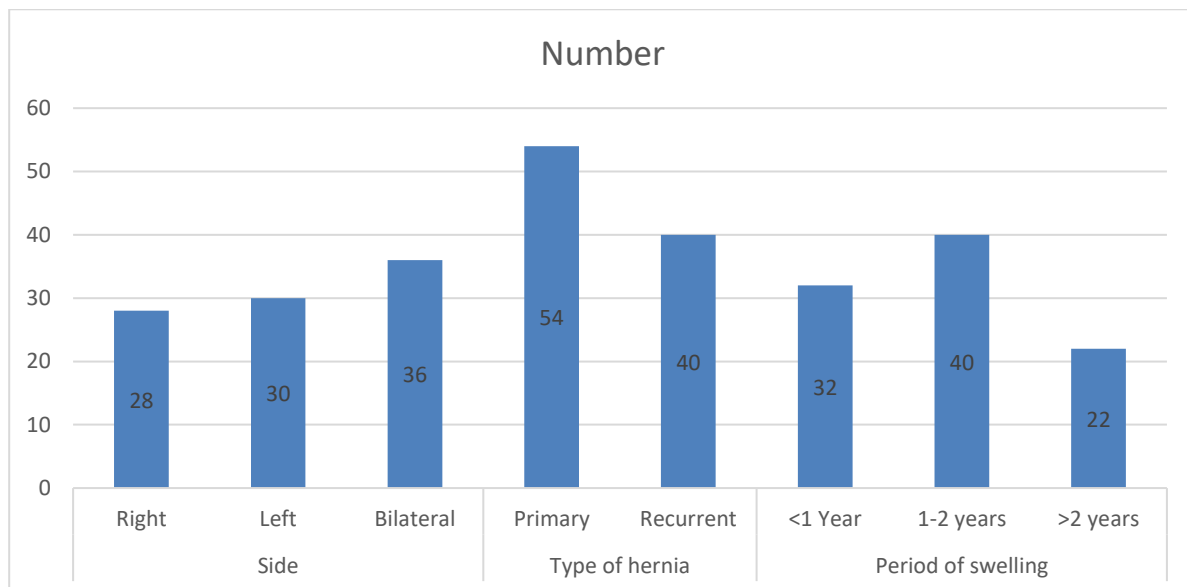


Table III Assessment of risk factors

Risk factors	Number	P value
COPD	24	0.09
Lifting heavy objects	88	
Alcoholism	26	
Smoking	34	
Diabetes	30	
Family history	11	
Bowel disturbances	72	
Age >60 years	26	

Table III shows that common risk factors for inguinal hernia were COPD in 24, lifting heavy objects in 88, alcoholism in 26, smoking in 34, diabetes in 30, family history in 11, bowel disturbances in 72 and age >60 years in 26. The difference was significant ($P < 0.05$).

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.^{7,8} Hernia is of different types such as abdominal wall hernia, indirect inguinal hernia, direct inguinal hernia, femoral hernia, umbilical hernia, Richter hernia, incisional hernia, spigelian hernia, obturator hernia, hiatal hernia, reducible hernia, incarcerated hernia and strangulated hernia.⁹ Inguinal hernia occurs in the groin (the area between the abdomen and thigh).^{10,11} Strangulation is the most important and potentially threatening complication of hernia.^{12,13} The present study was conducted to assess prevalence and risk factors of inguinal hernia.

We found that out of 94 patients, males were 60 and females were 34. Side was right in 28, left in 30 and bilateral in 36. Type of hernia was primary in 54 and recurrent in 40. Period of swelling was <1 year in 32, 1-2 years in 40 and >2 years in 22. Balamaddaiah G et al¹⁴ identified the various types of inguinal hernia observed and their risk factors. Out of the 212 patients, 79.2% patients were males and 20.8% were females and the commonest age group was 31-60 years. 74.5% of the cases were primary inguinal hernia while 25.5% were recurrent hernia. Period of swelling was less than one year for majority of the patients, while the least of them had swelling for more than 2 years. The most common cause for the presence of hernia was lifting heavy objects in 52.4% and improper bowel movements (46.7%).

We found that common risk factors for inguinal hernia were COPD in 24, lifting heavy objects in 88, alcoholism in 26, smoking in 34, diabetes in 30, family history in 11, bowel disturbances in 72 and age >60 years in 26. Bansal et al¹⁵ assessed the prevalence and risk factors of inguinal hernia. In the present study total patients were 180 & maximum patients were of age group 31-40 years (40%) and minimum (10%) were of age group 20-30 years. Primary hernia was present in 80.55% and recurrent hernia was present in 19.44%. Period of swelling was less than one year for majority (48.88%) of the patients, while the least of them had swelling for more than 2 years (13.88%). The most common side where the hernia was observed was on the right side (44.44%). The most common cause for the presence of hernia was lifting heavy objects (22.22%). In a study of S. Vijayakumar et al¹⁶ the main risk factor associated with inguinal hernias was found to be heavy object lifting especially in the industrial workers. Chronic cough, chronic constipation and benign prostatic hypertrophy are other risk factors.

The limitation of the study is small sample size.

Conclusion

Authors found that common risk factors for inguinal hernia were COPD, lifting heavy objects, age >60 years, alcoholism, smoking, diabetes, family history and bowel disturbances.

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