Original Research Article

Assessment of Prevalence and Risk Factors of Inguinal Hernia: A Prospective Study

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Abstract

Background: 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. The present study was conducted to assess the prevalence and risk factors of inguinal hernia.**Materials and Methods:** The present study was carried out among 180 adult patients of inguinal hernia over the period of 1 years. The demographic details were collected, and complete clinical examination was performed. Details of the hernia, such as the type of hernia, primary or recurrent was noted. Statistical analysis were performed using SPSS version 21.0 statistical software (SPSS, Chicago, IL).**Results:** In the present study total patients were 180 & maximum patients were of age group 31-40yrs(40%) and minimum (10%) were of age group 20-30yrs. 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 2years (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%).**Conclusion:** The present study concluded that maximum inguinal hernia patients were of age group 31-40yrs. Primary hernia was present in majority patients. Period of swelling was less than one year for majority of the patients. The right side was most common side and the most common cause for the presence of hernia was lifting heavy objects.

Keywords: Risk Factors, Inguinal Hernia, Abdominal Cavity.

Introduction

A hernia is defined as the protrusion of part or whole of an organ or tissue through the wall of the cavity that normally contains it[1]. Inguinal hernia is the most common type of hernia and affects chiefly men[2]. It may be congenital or may result from the failure of certain structures to close after birth or may acquire later in life because of obesity, muscular weakness, surgery or illness[3]. This is the most common type of hernia and affects chiefly men[4]. 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[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 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 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[7].The present study was conducted to assess the prevalence and risk factors of inguinal hernia.

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Materials and methods

The present study was carried out among 180 adult patients of inguinal hernia over the period of 1 years. 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 details were collected and complete clinical examination was performed. 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).

Results

In the present study total patients were 180 & maximum patients were of age group 31-40yrs(40%) and minimum (10%) were of age group 20-30yrs. 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 2years (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%).

Table 1: Age wise distribution of patients

Age group (yrs)	N(%)
20-30	18(10%)
31-40	72(40%)
41-50	53(29.44%)
Above 50	37(20.55%)
Total	180(100%)

Table 2: Types of Hernia

Type of Hernia	N(%)
Primary hernia	145(80.55%)
Recurrent hernia	35(19.44%)
Total	180(100%)

Table 3: Period of swelling

Period of swelling	N(%)
<1yrs	88(48.88%)
1-2yrs	67(37.22%)
≥2yrs	25(13.88%)
Total	180(100%)

Table 4: Side of hernia

Side of hernia	N(%)
Right	80(44.44%)
Left	65(36.11%)
Bilateral	35(19.44%)
Total	180(100%)

Table 5: Risk factors for inguinal hernia

Risk factors	N(%)
Family history	14(7.77%)
Smoking	18(10%)
Alcoholism	33(18.33%)
Lifting heavy objects	40(22.22%)
COPD	35(19.44%)
Bowel disturbances	22(12.22%)
Diabetes	9(5%)
Benign hypertrophy of prostate	4(2.22%)
Unknown	5(2.77%)
Total	180(100%)

Discussion

Hernia is of different types such as abdominal wall hernia, indirect inguinal hernia, direct inguinal hernia, femoral hernia, umbilical hernia, Richter hernia, incisional hernia, spieling hernia, obturation hernia, hiatal hernia, reducible hernia, incarcerated hernia and strangulated hernia[8].Inguinal hernia occurs in the groin (the area between the abdomen and thigh)[9].Strangulation is the most important and potentially threatening complication of hernia[10].

According to study of G. Balamaddaiah et al, out of the 212 patients, 35.8% of the patients were aged between 46-60 years, which was the commonest age group, followed by 31-45 years with 63 (29.7%) of the patients[11].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[7].

In a study of S.Vijayakumar et al, the main risk factor associated with inguinal hernias was found to be heavy object lifting especially in the industrial workers[12].Chronic cough, chronic constipation and benign prostatic hypertrophy are other risk factors as suggested by other studies[13-15].

A study in USA conducted by Constance et al. found that the inguinal hernia was associated with older age, chronic cough, obesity, greater heigh, rural residence[16].

Kumar et al. wherein 68% of the patients had swelling for less than 1 year [7].In the study by Balram et al. where the right-side hernia was the commonest. 6.9% of the patient in his study showed bilateral hernia[17].The cause for the right-side predominance was said to be due to late fall down of the testis and more frequent failure of closure of right processes vaginalis[18,19].

Conclusion

The present study concluded that maximum inguinal hernia patients were of age group 31-40yrs. Primary hernia was present in majority patients. Period of swelling was less than one year for majority of the patients. The right side was most common side and the most common cause for the presence of hernia was lifting heavy objects.

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