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A study on clinical profile of patients with inguinal hernia

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Abstract

Prevalence of inguinal hernia differs around the globe. It is likely to be caused by variations in population age structure, access to surgical care, and risk of death from hernia accident. The global mortality from inguinal hernia is significant, a more than 40,000 people die from hernia and its complications each year. Patients with clinical evidence of inguinal hernia were admitted and were subjected to full history and examination, routine investigations like complete blood count, blood sugar level, serum creatinine, chest X-ray, ECG etc. 50% of the cases enrolled in this study presented with a swelling within a duration of 1 to 6 months of its onset. Around 23% came within 6 to 12 months and around 17% presented after 1 year of the onset of swelling. 71.67% of the total cases in the study were indirect inguinal hernias, whereas the remaining 28.33% were direct ones.

Keywords: Inguinal hernia, indirect inguinal hernias, clinical profile

Introduction

Hernias are a common surgical problem; however, their true incidence is unknown. About 75% of all hernias occur in the inguinal region. Two thirds of these are indirect, and the remainder are direct inguinal hernias ^[1].

Men are 25 times more likely to have a groin hernia than are women. An indirect inguinal hernia is the most common hernia, regardless of gender. In men, indirect hernias predominate over direct hernias at a ratio of 2:1. Direct hernias are very uncommon in women. The lifetime risk of developing a groin hernia is about 25 percent in men but less than 5 percent in women.

Indirect inguinal hernias occur more commonly on the right side. This may be attributed to a delay in atrophy of the processus vaginalis after the normal slower descent of the right testis to the scrotum during fetal development ^[2].

Prevalence of inguinal hernia differs around the globe. It is likely to be caused by variations in population age structure, access to surgical care, and risk of death from hernia accident. The global mortality from inguinal hernia is significant, a more than 40,000 people die from hernia and its complications each year.

The etiology of inguinal hernia has long been a subject of debate. Although there is debate, in all likelihood, inguinal hernias in the adult are acquired defects in the abdominal wall. Although the precise causes of inguinal hernias are still unknown, however, the risk factors are likely multifactorial, the common denominator being a weakness in the abdominal wall musculature ^[3].

One of the most intriguing areas under study is the role of tissue biology in hernia formation, although there is limited data specifically related to the molecular basis of inguinal hernias. In a few studies microscopic examination of skin of inguinal hernia patients demonstrated significantly decreased ratios of type I to type III collagen. Although a significant amount of work remains to elicit the biologic nature of hernias, studies such as these provide compelling evidence for the presence of a genetic collagen defect ^[4].

Methodology

Study Design: Prospective longitudinal study

Study Duration: 6 Months

Sample Size: 60 (30 Laparoscopic and 30 Open)

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Inclusion Criteria

1. Elective cases done in M.O.T
2. Inguinal Hemiarthroplasty (TAPP or TEP and Lichtensteins MESH repair)
3. Patients with age group 15 - 75 years
4. Both unilateral and bilateral hernia cases
5. Primary cases

Exclusion Criteria**Patients with Recurrent hernia.**

60 cases of primary inguinal hernia were selected for the study. Permission of ethical committee and informed consent of each patient was taken.

Patients with clinical evidence of inguinal hernia were admitted and were subjected to full history and examination, routine investigations like complete blood count, blood sugar level, serum creatinine, chest X-ray, ECG etc. Additional investigations like abdominal ultrasonography, CT scan of abdomen were done in cases with equivocal findings and suspected of other pathologies. Inclusion and exclusion criteria were defined and strictly adhered to in selecting the cases to be included in the study.

Results**Table 1:** Showing sex distribution in patients studied

| Gender | All Patients | |
|--------|--------------|-------|
| | No. | % |
| Male | 59 | 98.33 |
| Female | 1 | 1.67 |
| Total | 60 | 100 |

Sixty patients were included in the study, out of which 59 were male patients (98.33%) and only one female patient (1.67%).

Table 2: Showing occupation distribution of patients studied

| Occupation | All Patients | |
|----------------------------|--------------|-------|
| | No. | % |
| Agriculturist | 20 | 33.33 |
| Shopkeeper | 5 | 8.33 |
| Teacher | 2 | 3.33 |
| Mason | 3 | 5 |
| Truck driver | 2 | 3.33 |
| Rickshaw driver | 2 | 3.33 |
| Rickshaw puller | 1 | 1.67 |
| Student | 4 | 6.68 |
| Small scale businessman | 9 | 15 |
| Factory/ tea garden worker | 6 | 10 |
| Unemployed | 6 | 10 |
| Total | 60 | 100 |

Majority of the patients in the study were agriculturists by occupation (33.33%). Around 20% were small scale businessmen, 10% were factory/tea garden workers and 10% were unemployed.

Table 3: Showing site of swelling of patients in study.

| Site of swelling | All Patients | |
|------------------|--------------|-----|
| | NO. | % |
| Inguinal | 42 | 70 |
| Inguinoscrotal | 18 | 30 |
| Total | 60 | 100 |

70% of the cases presented with the swelling confined to the

inguinal region whereas the remaining 30% presented with an Inguinoscrotal swelling.

Table 4: Showing the distribution of duration of swelling of the patients under study

| Duration of swelling | All patients | |
|----------------------|--------------|-------|
| | No. | % |
| < 1 Month | 6 | 10 |
| 1-6 Months | 30 | 50 |
| 6-12 Months | 14 | 23.33 |
| > 1 Year | 10 | 16.67 |
| Total | 60 | 100 |

50% of the cases enrolled in this study presented with a swelling within a duration of 1 to 6 months of its onset. Around 23% came within 6 to 12 months and around 17% presented after 1 year of the onset of swelling.

Table 5: Showing the distribution of the anatomical type of inguinal hernia of patients in study

| Side of swelling | All Patients | |
|------------------|--------------|-------|
| | No. | % |
| Indirect | 43 | 71.67 |
| Direct | 17 | 28.33 |
| Total | 60 | 100 |

71.67% of the total cases in the study were indirect inguinal hernias, whereas the remaining 28.33% were direct ones.

Discussion

Rutkow IM *et al.* studied the demographics of inguinal hernia and found out that 90% of the cases were males and 10% were females [5].

In a study by Martin Kurzer and colleagues of British hernia centre, 97% cases were males and 3% females [6].

In a study by Primates *et al.*, 90% of inguinal hernia operations were on men [7] and Dabbas *et al.* reported that inguinal hernia repairs were carried out in total almost 15 times more commonly in men than in women [8].

In a prospective study of 57 patients of inguinal hernia conducted by DC Shyam *et al.* in North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, India, he reported that 100% were male cases [9].

In our study, 98.33% were males and 1.67% were females. Although the sex incidence of our study does not correlate with the other studies done outside the country, it does have similar results with the study done in this part of the country.

In a study by Nielson MB *et al.*, the highest incidence of inguinal hernia was seen in those who were occupied by intermittent strenuous work over constant strenuous work [10].

In a study conducted by Muhammad N *et al.* in Pakistan, 36% were laborers and 28% were farmers, hence a total of 64% cases of inguinal hernia that were studied had themselves involved in heavy work [11].

In a prospective study of 57 patients of inguinal hernia conducted by DC Shyam *et al.* in North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, India, it was observed that the incidence of inguinal hernia is highest amongst the group engaged in hard and strenuous manual work where most of them were cultivators [9].

Svendsen SW *et al.* suggested a possible mechanism for formation of inguinal hernias as increased intra-abdominal pressure during heavy work activities and his results agree with the hypothesis that formation of indirect inguinal hernias can be

related to increased abdominal pressure that leads to protrusion of abdominal contents through an opening of the inguinal canal [12].

Sanjay P *et al.* [13] and Salcedo-Wasicek MC *et al.* [14], in different studies have also observed that lateral inguinal hernias were more likely to occur among patients with heavy work.

In our study 33.33% of the cases were agriculturists, 15% were small scale businessmen and 10% were factory workers, similar to the studies stated above, hence proving that people who are occupied with moderate and heavy strenuous work have higher incidence of inguinal hernia.

In a study, Bhola Singh *et al.* reported that almost 56% of the cases studied presented with a swelling within a time period of 6 months to 1 year [15].

Majority (50%) of the cases in our study presented within 1 to 6 months duration and got operated. It is comparable to the previous study.

Prior MJ *et al.*, in his study on inguinal hernia reported that 60% of the cases presented with an indirect inguinal hernia and the remaining 40% had a direct hernia [16].

In our study, 71.67% of cases presented with an indirect inguinal hernia and the remaining 28.33% presented with a direct one and is comparable to the above stated studies, hence suggesting that indirect inguinal hernia is more common than direct inguinal hernia.

Conclusion

- Highest incidence of inguinal hernia was seen in males (59 males and 1 female were part of the study).
- The overall mean age of presentation was 45.86 years (SD ± 15.64).
- Majority of the cases were involved in a occupation demanding moderate to hard strenuous physical activities.
- 70% of the cases had the swelling confined to the inguinal region and the rest 30% presented with an Inguinoscrotal swelling.

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