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ORIGINAL RESEARCH

Prevalence of inguinal hernia in Maharashtrians Population

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Abstract
The most prevalent type of abdominal wall hernias are inguinal. Although the prevalence of inguinal hernias is unknown, roughly 500,000 cases are treated in hospitals annually. There is a dearth of information on inguinal hernia primary and recurrence rates in our nation. to compare the age- and gender-specific prevalence rates of inguinal hernia. to estimate the prevalence of inguinal hernia among various age groups. According to the study, those between the ages of 41 and 50 (29.29%) are the most susceptible to developing an inguinal hernia. Eighty eight percent of the patients were men. The most frequent hernia among patients was on the right side. In the study population, heavy object lifting and chronic coughing were frequently identified as risk factors.Our findings may serve as a useful guide for future research on the frequency of inguinal hernias in general populations.

Introduction
A protrusion of the abdominal cavity and its contents through the inguinal canal is known as an inguinal hernia. Men are particularly susceptible, with lifetime risks of 27% and 3%women.[1]The most prevalent type of abdominal wall hernias are inguinal. Although the prevalence of inguinal hernias is unknown, roughly 500,000 cases are treated in hospitals annually.[2] Men's inguinal hernia prevalence was 5% in international and US studies conducted 20 or more years ago, and a similar percentage of men had a history of inguinal hernia surgery. [2] Inguinal hernia complications can result in imprisonment, intestinal obstruction, and bowel strangulation, with older people at the highest risk. Inguinal hernias account for more than 95% of all groyne hernia repairs, and they are a popular general surgery procedure for both adults and children.[3]
Congenital or acquired inguinal hernia Increased abdominal pressure, prior weakening of the abdominal muscles, straining while urinating, heavy lifting of weights, obesity, pregnancy, and other factors are among the known and suggested risk factors and causes for inguinal hernias. Numerous theories on the cause of inguinal hernia have been put up; nevertheless, extensive information on the prevalence of inguinal herniagive more insight into the pathogenesis of inguinal hernia formation. There is a dearth of information on P recurrence rates in our nation. Even in this modern day, where sufficient sterilizing precautions must be taken, the number of cases with septic complications is on the rise. 4 Every technique will have ardent supporters and detractors. However, the likelihood of a hernia recurrence grows

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with each repair, which is why it is so important to practice evidence-based treatment and to closely monitor the long-term follow-up outcomes of any particular newer procedures. The purpose of this study was to determine the prevalence, age and gender disparities, and risk factors for the inguinal hernia.

Aim

To determine the prevalence of inguinal hernia in various age groups and to compare the prevalence rates of hernias according to age and gender.

Material method

The study was carried out retrospectively at the Prakash Institute of Medical Sciences & Research, Islampur, Maharashtra. Data were gathered from the General Surgery Operation Theatre Register and hospital files that contained the patient's complete medical history and a report of regular follow-ups. The study included 198 admissions and operations from the General Surgery Department of the Medical College over the previous two years. Patients who require immediate treatment for outlet obstruction or strangulation or who have ASA Grade III or worse are not included in the study. The information included the patient's name, a brief account of the case, the type of hernia, whether it was a primary or recurring hernia, and the existence of risk factors.People who visit the outpatient surgery center at the medical college for routine follow-ups and examinations following an inguinal surgery.The study also included hernias. In an effort to follow up with some of the patients who underwent primary inguinal hernia procedures at Medical College but were discovered to be neglecting the follow-ups, communications were also formed with them via their contact addresses and contact numbers as identified in the records.

To gain a true picture of the facts on inguinal hernia and its recurrence, the study's collected data were tabulated and statistically examined. A proper statistical analysis was performed on the available data.

Result

Table 1: Age wise distribution of the patients

Age group	No. of patients	Percentage
0-10	06	2.52
11-20	11	6.05
21-30	31	16.15
31-40	49	24.25
41-50	59	29.30
51-60	25	13.15
>60	17	8.59
TOTAL	198	100

The prevalence of inguinal hernias was highest in the age range of 41 (29.30%), followed by 31–40 years (24.25%), as shown in the table above.The majority of the patients were male (87.89%) while females were 12.11%

Table2: Distribution of patients depending on side of presentation of hernia

Side of hernia	No. Of patients	Percentage
Right side	92	45.97
Left side	66	33.83
Bilateral	40	20.21
Total	198	100

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The distribution of hernias according to side of presentation is seen in the above table, where right-sided hernias were more prevalent (45.97%). Bilateral hernias were found in 20.21% of cases, followed by the left hernia in 33.83% of cases.

TABLE 3: Distribution of the Patients depending upon type of hernia

Side	Primary (%)	Recurrent (%)	Total (%)
Direct	43	14	57
Indirect	99	42	141
Total	142	46	198

In the table above, it was noted that 142 (71.71%) patients had primary inguinal hernias, whereas 56 (28.29%) patients had recurrent hernias.

Table 4: Risk factors among patients with Inguinal Hernia
Risk Factors
No. of patients (N=198)#

Risk factors	No. Of patients (n=198)	Percentage
Smoking	46	23.23
Alcohol	23	11.62
Heavy objects lifting	77	38.89
Chronic cough	21	10.61
Family History	07	03.54
Bowel/ Bladder disturbances	16	08.08
Co-morbidities	67	33.84

(# Multiple responses seen)
The most common risk factor observed in the study was lifting heavy objects (38.89%) followed by co-morbidities (33.84%) like hypertension, diabetes mellitus etc. smoking and chronic cough was also seen in 23.23% and 10.61% patients respectively.

Discussion
The goal of the current study, a retrospective analysis carried out during the previous two years at RGIMS, was to determine the prevalence of inguinal hernia across various age groups.The Medical College's Surgery Department was where the study was carried out. Inguinal hernias were present in 198 (3.3%) of the almost 6000 patients who visited the hospital's surgery department in the past two years.The results of the current investigation provided proof of the age and gender differences in inguinal hernias. Inguinal hernia is prevalent across all ages, according to prevalence statistics.In this study, the prevalence peaked in the adult age group of 41–50 years (29.30%), followed by 31–40 years (24.25%), which accounted for about 65% of inguinal hernias.Indrani Basu[6] et al., investigation revealed similar results, showing that the peak incidence of inguinal hernia occurred between the ages of 42 and 57. It occurs less frequently in adolescent age groups. Numerous investigations refuted this findings, although it has been demonstrated in some of them that the age distribution is bimodal, peaking in early childhood and old age. [7]
According to the findings (figure 2), out of 198 instances, 174 were male and 24 were female, demonstrating the male gender bias.7.25:1 male:female ratio. This may be because males and females have different anatomical structures. The other reason could be because girls were less exposed to greater physical activity than males were, which made their workload appear to be less onerous. Inguinal hernias were therefore less common in females due to several anatomical and occupational differences between males and girls. Men had a lifetime risk of

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15–27% and women had a 3% chance of acquiring an inguinal hernia. [8]More cases of right inguinal hernias than left ones were discovered, and 20% of cases were reported to have bilateral inguinal hernias. A comparable investigation by Mukesh Sangwan[9] et al. in Khanpur revealedLeft-sided hernias were less frequent than right-sided ones. In the current study, it was shown that 142 (71.71%) patients had initial inguinal hernias, whereas 56 (28.29%) patients had recurrent hernias. The main possible risk variables identified in the literature were examined in the current investigation. The primary risk factor for inguinal hernias was identified asmoving a big thing. The findings indicated that those with a history of lifting large objects were more likely to acquire inguinal hernias. About half of the men in the study's 198 instances were found to be doing physically demanding jobs. This is due to the fact that the majority of hospital patients were low socioeconomic class individuals from nearby villages. Their primary occupations include farming, labouring, construction work, etc., which requires more physical activity and, in turn, raises abdominal pressure, which can lead to the development of inguinal hernias. Smoking (23.23%) and a persistent cough (10.61%) were discovered to be the other contributing factors. These elements raise abdominalpressure that causes inguinal hernias to form. Muscle weakness brought on by persistent smoking may further raise the likelihood of inguinal hernias. The risk factors identified in this study were comparable to those reported in a study conducted in the United States, which revealed that inguinal hernias were linked to advanced age, obesity, larger height, chronic cough, and rural habitation. [10]

Conclusion

This prevalence analysis revealed that the inguinal hernia age distribution peaked at adulthood, with a male preponderance of 7.25:1 compared to females. a majorRight side had a predominance of primary inguinal hernias. According to the study, excessive lifting and persistent constipation are two main risk factors for inguinal hernias. Conclusion: These findings may serve as a useful guide for future research on the frequency of inguinal hernias in general populations.

References

1. John T Jenkins, Patrick J O'Dwyer. Inguinal hernias. British Medical Journal. BMJ 336 (7638): 269–272. 2. Everhart JE. Abdominal wall hernia. In: Everhart JE, ed. Digestive diseases in the United States: epidemiology andimpact. Bethesda, MD: National Institute of Diabetes and
2. Digestive and Kidney Diseases, 1994:471–507.
3. Ein SH, Njere I, Ein A. Six thousand three hundred sixtyone pediatric inguinal hernias: A 35- year review. J Pediatr Surg. 2006; 41: 980–86.
4. Bendavid R. Complications of groin hernia surgery. Surg.Clin. North Am. 1998; 78:1089–1103.
5. Haapaniemi S., Gunnarsson U., Nordin P., Nilsson E. Reoperation after recurrent groin hernia repair. Ann Surg. 2001; 234:122-126.
6. IndranilBasu, Sudhangshou Sekhar Bhoj, Ananda Kumar Mukhopathyay. Retrospective Study on Prevalence of Primary and Recurrent Inguinal Hernia and its Repairs in Patients Admitted to a Tertiary Care Hospital. Indian Medical Gazette — June 2013: 203 – 213.
7. Burcharth J, Pedersen M, Bisgaard T, Pedersen C, Rosenberg J. Nationwide Prevalence of Groin Hernia
8. Repair. PLoS one. 2013; 8(1): 14.
9. Gulzar, M.R., Iqbal, J., Ulhaq, M.I. and Afzal, M. (2007) Darning vs Bassini repair for inguinal hernia: A
10. prospective comparative study. Professional Medical Journal. 2007; 14:128-133.

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11. Mukesh Sangwan, Vijayata Sangwan, Mahender Garg, Parveen Mahendirutta, Uma Garg. Abdominal wall hernia in a rural population in India: Is spectrum changing? – Open journal of epidemiology. 2013; 3: 135 –138.
12. Constance E. Ruhl and James E. Everhart. Risk Factors for Inguinal Hernia among Adults in the US Population. American journal of Epidemiology. Am J Epidemiol. 2007; 165 (10): 1154 – 1161