

ORIGINAL RESEARCH

STUDY OF ASSOCIATION OF LOWER URINARY TRACT SYMPTOMS IN PATIENTS OF INGUINAL HERNIA

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Abstract

Introduction: Inguinal hernia repair is one of the most common operations performed by general surgeons worldwide. It is the most common subtype of abdominal wall hernias encountered by surgeons, which are almost 15-18% of all surgical procedures. Inguinal hernias can present with an array of different symptoms. Lower urinary tract symptoms (LUTS) due to benign prostatic hyperplasia (BPH) are very common among elderly men. Conditions that occur more frequently with age such as atherosclerosis, obesity, and insulin resistance, can be important underlying etiological factors for benign prostatic enlargement (BPE) that is generally caused by the histopathological condition known as BPH.

Aim and Objective: To evaluate the presence of Lower urinary tract symptoms in patients of inguinal hernia.

Material and Methods: This was a prospective study conducted in the Department of Surgery at GMC / Rajindra Hospital. 50 patients of inguinal hernia were included in the study. They were assessed for various urinary tract symptoms and evaluated accordingly.

Result: The study included Sample size of 50 Patients. The mean age of study group was 53.04±15.14 years. we found that majority 62%(23/50) patients had increased frequency while 48%(24/50) patients face intermittency and 46%(23/50) patients had weak stream. Incomplete emptying was complained by 46%(23/50) patients. We found that 24% (12/50) patients were of moderate IPSS while in 20% (10/50) patients mild IPSS was seen and in 18% (9/50) patients severe IPSS was recorded. E.coli was seen in 34% (17/50) samples while Neisseria was seen in 2% (1/50) patients. No growth was noted in 64% (32/50) patients.

Conclusion: On the basis of this study, it can be concluded that if patients with inguinal hernia have complaints of Lower Urinary Tract Symptoms, they must be evaluated and the symptoms must be relieved before proceeding for hernia surgery. The complications of hernia recurrence can be prevented by early diagnosis and treatment of Lower Urinary Tract Symptoms.

Key words: Lower urinary tract, inguinal hernia.

INTRODUCTION

Inguinal hernia repair is one of the most common operations performed by general surgeons worldwide.¹ It is the most common subtype of abdominal wall hernias encountered by surgeons, which are almost 15-18% of all surgical procedures. More than one million inguinal hernia repairs are being performed every year in the USA and Europe, and the figure is likely to be same for India.² Inguinal hernias can present with an array of different symptoms. Most patients present with a bulge in the groin area, or pain in the groin. Some will describe the pain or bulge that gets worse with physical activity or coughing. Symptoms may include a burning or pinching sensation in the groin. These sensations can radiate into the scrotum or down the leg. It is important to perform a thorough physical and history to rule out other causes of groin pain. At times an inguinal hernia can present with severe pain or obstructive symptoms caused by incarceration or strangulation of the hernia sac contents.³

The prevalence of inguinal hernia increases with age, and inguinal hernias account for 75% of all abdominal hernias. It is difficult to determine the precise prevalence of inguinal hernias within the general community, however, they do occur more commonly in men with a lifetime risk of 27%.⁴ Multiple etiological factors are associated with hernia. Chronic cough, chronic obstructive pulmonary disease, constipation, prostatism, pregnancy, ascites, and heavy lifting are known to cause inguinal hernia, via an increase in intra-abdominal pressure. Patients with inguinal hernia (especially bilateral inguinal hernia) with complaints suggestive of benign hypertrophy of prostate (BPH) or lower urinary tract obstruction must be evaluated for lower urinary tract symptoms (LUTS) and bladder outlet obstruction (BOO) and obstruction should be relieved before proceeding for definitive surgery of hernia.⁵ Lower urinary tract symptoms (LUTS) due to benign prostatic hyperplasia (BPH) are very common among elderly men. Conditions that occur more frequently with age such as atherosclerosis, obesity, and insulin resistance, can be important underlying etiological factors for benign prostatic enlargement (BPE) that is generally caused by the histopathological condition known as BPH.

BPE is the most common cause of LUTS in elderly men, occurring in 40% of men aged 50 years and in 90% of those aged 90-99 years.⁶ In urological practice, symptom scores are used to evaluate LUTS due to BPH. The most commonly used prostate symptom questionnaire is that which generates the International Prostate Symptom Score (IPSS), which classifies the severity of symptoms as mild (score: 0-7), moderate (score: 8-19), or severe (score: 20-35). The coexistence of inguinal hernia and LUTS due to BPH is very common. Patients with inguinal hernia reportedly have higher IPSSs than those without inguinal hernia.⁷

The study aims to evaluate the presence of Lower urinary tract symptoms in patient with inguinal hernia.

MATERIAL AND METHOD

This was a prospective study conducted in the Department of Surgery at GMC / Rajindra Hospital. 50 patients of inguinal hernia were included in the study. They were assessed for various urinary tract symptoms and evaluated accordingly.

Inclusion Criteria:-

1. The patients above 18 years of age presenting to surgery OPD with inguinal hernia were included

2. Only those patients who had given their informed consent to participate in this study were included in this study.

Exclusion Criteria:- were patients younger than 18 years of age.

RESULT

In our study we found that majority 40% patients were in age group 41-60 years while 38% patients in age group >60years. The mean age of study group was 53.04 ± 15.14 years.

Table 1: Distribution of cases according to Symptoms.

Symptoms	No. of Patients	Percentage
Incomplete Emptying	23	46
Frequency	31	62
Intermittency	24	48
Urgency	21	42
Weak Stream	23	46
Straining	18	36
Nocturia	13	26

In table 1, we found that majority 62%(23/50) patients had increased frequency while 48%(24/50) patients face intermittency and 46%(23/50) patients had weak stream. Incomplete emptying was complained by 46% (23/50) patients.

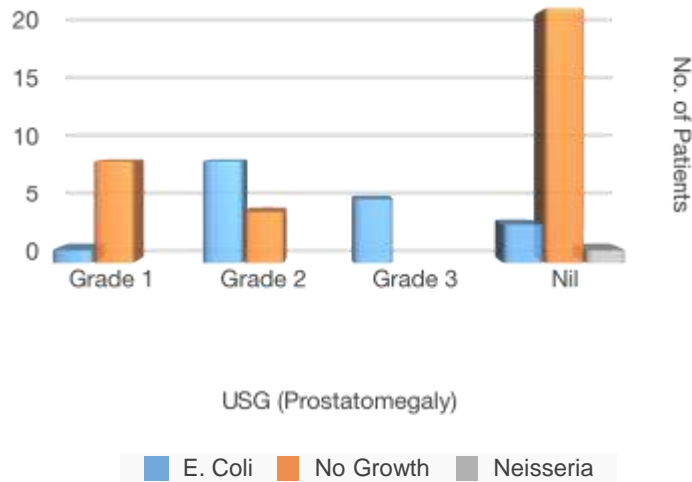
In our study we found that majority 64% (32/50) patients had unilateral hernia while 36% (18/50) patients had bilateral hernia. We found that 24% (12/50) patients were of moderate IPSS severity while in 20% (10/50) patients mild IPSS severity was seen and in 18% (9/50) patients severe IPSS Severity was recorded.

Table 2: Distribution of patients according to Urine C/S.

URINE C/S	No. of Patients	Percentage
E. Coli	17	34
Neisseria	1	2
NG	32	64
Total	50	100

In table 2, we found that majority 42% (21/50) patients were having Pus cells while 6% (3/50) patients were having sugar in urine microscopy. We found that E.coli was seen in 34% (17/50) samples while Neisseria was seen in 2% (1/50) patients. No growth was noted in 64% (32/50) patients.

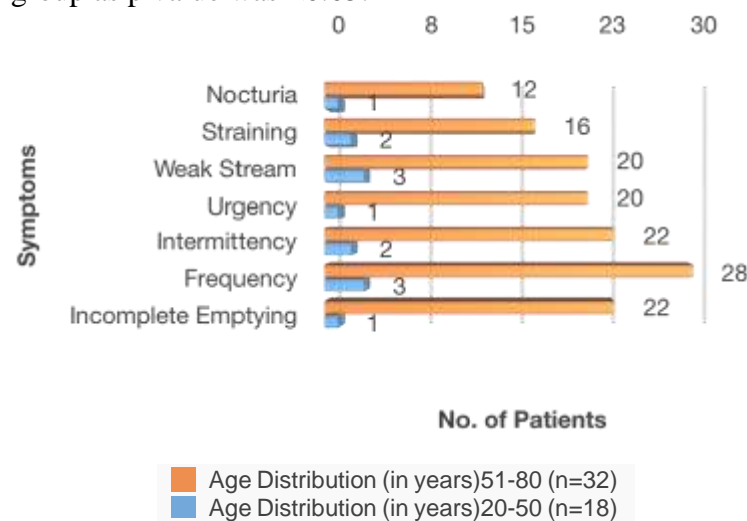
In graph 1, below we found that in grade 2 patients 16% (8/19) samples were of e.coli while in grade 3 patients 10% (5/19) samples had E.coli and in grade 1 patients only 2% (1/19) sample were of E.coli.



Graph 1: Correlation of Prostatomegaly with Organism

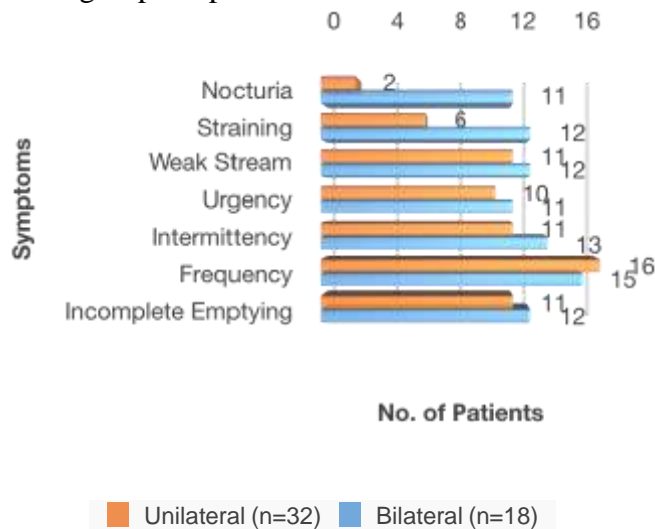
In the present study we found that in severe IPSS Severity 33.3% (4/12) patients were of grade 2 while 100% (5/5) patients of grade 3 while in moderate IPSS Severity 33.3%(3/9) patients were of grade 1 while 66.6%(8/12) patients were of grade 2. Here we can conclude that increase in prostatomegaly grade will increase the severity of IPSS Severity.

In graph 2, below we found that 68.7% (22/32) patients in age group 51-80 years and 5.56% (1/18) patients in 20-50 years age group had incomplete emptying while 87.5% (28/32) patients of older group and 16.6% (3/18) patients of younger group had increased frequency. The weak stream was seen in 62.5% (22/32) older patients while 16.6% (3/18) patient younger patients faced this problem. Here we can conclude that as the age increases the symptoms of hernia increases. Our result showed significant difference between both the group as p value was <0.05.



Graph 2: Correlation of symptoms with age distribution.

In graph 3, below we found that in 66.6% (12/18) patients of bilateral hernia and 34.3% (11/32) patients of unilateral hernia faced incomplete emptying while 83.3% (15/18) patients of bilateral hernia and 50% (16/32) patients of unilateral hernia had frequency problem. In 61.1% (11/18) patients of bilateral hernia and 6.25% (2/32) patients of unilateral hernia nocturia was seen while 66.6% (12/18) patients of bilateral hernia and 34.3% (11/32) patients of unilateral hernia weak stream was seen. There was significant difference seen between these groups as p value was <0.05.



Graph 3: Correlation of symptoms with a side of inguinal hernia.

DISCUSSION

Lower urinary tract symptoms (LUTS) are mostly prevalent among elderly men. A number of etiologic factors have been described with the genesis of urinary symptoms. These include aging on the nervous system and bladder, metabolic derangements, changes in fluid regulation, obstruction and autonomic over activity.⁷ A variety of factors are responsible for the development of an inguinal hernia. These include obesity and work-related physical activity.

In our study we found that majority 40% (20/50) patients were in age group 41-60 years while 38% (19/50) patients in age group >60 years. The mean age of study group was 53.04±15.14 years. Mandal P P et al⁸ found that Majority of direct hernia patients were elderly with age more than 50 years (n=21). A similar study by Suman S et al⁹ found that among the sample majority of the patients (47.5%) were 51-60 years old.

In present study we found that majority 62% (23/50) patients had reduced frequency while 48% (24/50) patients face intermittency and 46% (23/50) patients had weak stream. Incomplete emptying was complained by 46% (23/50) patients.

Suman S et al⁹ found that out of the sample 55% had symptoms suggestive of LUTS. Among the symptomatic patients 34% of them had mild, 50% of them had moderate and 16% of them had severe LUTS. Most of the patients complained of a weak stream, but only very few complained of straining.

In the present study we found that 24% (12/50) patients were of moderate IPSS severity while in 20% (10/50) patients mild IPSS severity was seen and in 18% (9/50) patients severe IPSS Severity was recorded.

Reis et al studied the correlation between the presence of inguinal hernia and the intensity of lower urinary tract symptoms.⁷ In that study, 32 patients in the inguinal hernia group were

evaluated for LUTS. This study showed that in inguinal hernia group, IPSS score of more than 7 was present in 28 (87.5%) patients. Reis E B et al⁷ did not find a statistically significance difference between the number of men with mild, moderate and severe LUTS symptoms between groups 1 and 2, but the presence of IH correlated with a higher IPSS.

In the present study we found that E.coli was seen in 34% (17/50) samples while Neisseria was seen in 2% (1/50) patients. No growth was noted in 64% (32/50) patients. We found that in grade 2 patients 16% (8/19) samples were of e.coli while in grade 3 patients 10% (5/19) samples had E.coli and in grade 1 patients only 2% (1/19) sample were of E.coli.

A similar study by Jain SK et al¹⁰ found that E.Coli was seen in 10% samples while in 90% sample no growth was noted. Similarly in a study by Suman S et al⁹ 59% samples were of E.Coli while 41% cases had no growth recorded.

CONCLUSION

In this study, the most common symptom of LUTS among hernia patients was a increased frequency of urine. The majority of patients had moderate LUTS on the basis of IPSS. On the basis of this study, it can be concluded that if patients with inguinal hernia have complaints of Lower Urinary Tract Symptoms, they must be evaluated and the symptoms must be relieved before proceeding for hernia surgery. The complications of hernia recurrence can be prevented by early diagnosis and treatment of Lower Urinary Tract Symptoms.

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