

Objective Assessment of Lower Urinary Tract Symptoms (LUTS) in Patients with Inguinal Hernia (IH)

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Abstract- If the LUTS are not treated before the hernial repair, there is a high recurrence rate. Patients with IH are questioned about LUTS and Benign prostatic hyperplasia BOO which does not include evaluation with IPSS. The objective of the study was to assess the LUTS with IPSS and urine flow rate in male patients with IH with who does not complain of LUTS. The patients were assessed by IPSS and uroflowmetry. The most severe symptom of LUTS among Hernia patients was weak stream. Out of the sample 35% of them had mild LUTS, 50.83% of them had moderate LUTS and 14.16% of them had severe LUTS. Most of the patients did complain of a weak stream, but only very few complained of straining. Majority of patients had moderate LUTS. Assessing the LUTS with IPSS and urine flow rate help to identify patients with BOO in asymptomatic patients with IH.

Index Terms- LUTS, Inguinal Hernia, uroflowmetry, Benign prostatic hyperplasia, weak stream

I. INTRODUCTION

Benign prostatic hyperplasia (BPH) is macroscopically characterized by an enlargement of the prostate gland. It results in bladder outlet obstruction (BOO) and leads to the complications including Inguinal Hernia (IH) and Lower urinary Tract Symptoms (LUTS).⁽¹⁾

Lower urinary tract symptoms (LUTS) are prevalent among aging men. Multiple etiological factors have been described with the genesis of urinary symptoms, including the effect of aging on the nervous system and bladder, metabolic changes, changes in fluid regulations obstruction and autonomic over activity.⁽¹⁾

The incidence of inguinal hernias (IH) also increases with age. A variety of factors are responsible for development of Inguinal hernia such as obesity, cough, constipation, benign prostatic hypertrophy, pregnancy and heavy lifting.(Rodolfo) Including obesity and work related physical activity are contributory to development of IH. It is not uncommon for urologists to face patients presenting with LUTS associated to IH.⁽²⁾

A significant number of elderly men with symptoms of BPH have inguinal hernia at the same time. Simultaneous pre peritoneal inguinal hernia repair with other pelvic surgeries has been described, but it was not popular among urologists and general surgeons mainly because of high rate of infections and recurrence.⁽³⁾

Traditionally, the diagnostic evaluation of patients with lower urinary tract symptoms (LUTS) suggestive of bladder

outlet obstruction (BOO) includes symptomatic evaluation. IPSS symptom scoring system has proved to be a useful tool to quantify clinical symptoms.⁽¹⁾

LUTS was quantified using the 7 questions of International Prostate Symptom Score (IPSS) and the patients were classified as having mild, moderate and severe symptoms. The role of IPSS as a clinical tool in the evaluation of patients with Inguinal Hernia and BPH.⁽²⁾

The Teaching Hospital Peradeniya was the second largest Teaching Hospital in Sri Lanka which consists of professorial units of University of Peradeniya and it is a tertiary referral center with many surgical specialties. The objectives of this study were to assess the LUTS with IPSS and urine flow rate in male patients with Inguinal Hernias (IH) who are asymptomatic regarding LUTS, to evaluate the IPSS and the flow rate in Patients having Inguinal Hernia (IH) without LUTS and to evaluate the intensity of LUTS using the above parameters.

II. PATIENTS AND METHOD

A prospective study was undertaken in order to verify the correlation between the presence of IH and the intensity of LUTS assessed with IPSS and uroflowmetry in asymptomatic male patients. The study was carried out in the surgical wards at Teaching Hospital Peradeniya. The study population included all male patients booked for IH repair at Teaching Hospital Peradeniya who did not complain about LUTS and other precipitating factors for the development of IH. Patients with urinary tract infections, recent History of Abdominal Surgery (< 1 Year,) pervious therapy for voiding Dysfunction (during last 3 months) were excluded from the study.

The total sample of subjects who match the inclusion and exclusion criteria within the study period were selected. There were 120 male patients during a ten month period. The mean age was 65.69±13.01. The patients were assessed by IPSS and uroflowmetry. Before the uroflowmetry was done, they were reloaded with the same quantity of oral fluids.

Data collection and analysis was conducted by an interviewer according to IPSS questionnaire. LUTS was quantified using 7 questions of IPSS and the patients were classified as having mild, moderate and severe symptoms.

The informed written consent was obtained from all subjects. The privacy and confidentially was assured throughout the research. The ethical clearance was obtained from the ethical review committee of Faculty of Medicine, University of Peradeniya.

The collected data was categorized and entered in to MS Excel software. Then statistical significance was obtained by SPSS software.

III. RESULTS

The most severe symptom of LUTS among Hernia patients was weak stream (2.75 ± 2.63) and the average values for other symptoms were; intermittency 2.59 ± 1.93 , urgency 2.56 ± 2.06 , frequency 2.49 ± 1.68 , nocturia 2.10 ± 1.48 , incomplete emptying 2.19 ± 1.90 and straining 0.96 ± 1.37 . Out of the sample 35% of them had mild LUTS, 50.83% of them had moderate LUTS and 14.16% of them had severe LUTS.

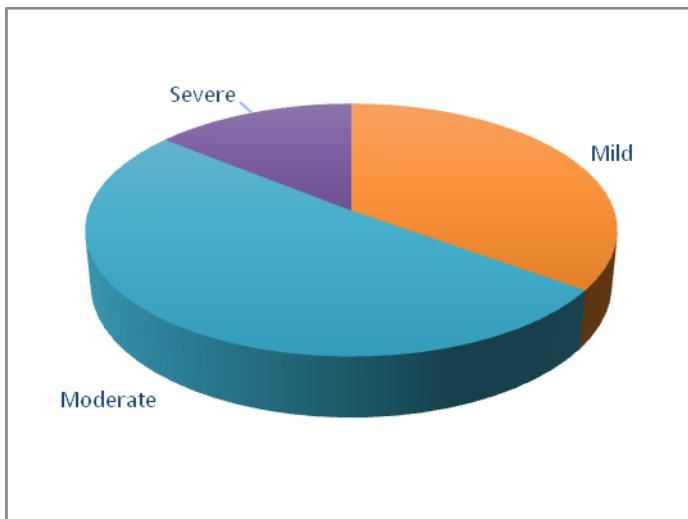


Figure 1: Severity of LUTS

The mean maximum flow rates for mild, moderate and severe LUTS were 16.51 ± 14.86 , 15.85 ± 8.49 and 13.33 ± 4.9 respectively.

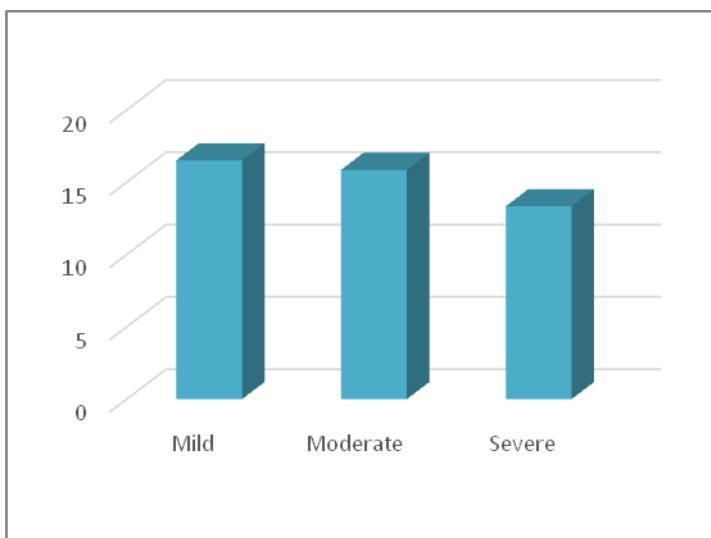


Figure 2: Distribution of maximum flow rate among LUTS groups

IV. DISCUSSION

Straining at micturition is one of the causes for development of IH. Most of the patients complained of a weak stream, but only very few complained of straining. It is a possibility that our patients do strain to pass urine but they do not appreciate that. Another possibility is that when they have a weak stream they eventually do strain to pass urine even though they do not realize it. Therefore if we do not assess the LUTS objectively patients will continue to strain and there will be a high recurrence rate of hernia.

V. CONCLUSION

The most severe symptom of LUTS among Hernia patients was weak stream. Majority of patients had moderate LUTS. Assessing the LUTS with IPSS and urine flow rate helps to identify patients with BOO in asymptomatic patients with IH.

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