



ORIGINAL ARTICLE

Aetiology of Urinary Outflow Obstruction at a tertiary Care Hospital in Bangladesh

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Abstract

Background: There are several etiologies of urinary tract obstructions. **Objective:** The purpose of the present study was to find out the etiology of urinary tract obstructions. **Methodology:** This cross-sectional study was conducted in the Department of Surgery at Rajshahi Medical College, Rajshahi, Bangladesh from September 1994 to December 1995 for a period of one year and three months. All the patients who were presented with bladder outflow obstruction and were admitted in the general surgical unit of the hospital were taken as study population. **Result:** A total number of 50 patients were recruited for this study. The most frequent cause of bladder outflow obstruction was benign enlargement of prostate (26.0%), next common cause was impacted urethra stone (22.0%) and stricture urethra (22.0%). Rupture urethra was found in 7(14.0%) cases and carcinoma of prostate was found in 3(6.0%) cases. **Conclusion:** In conclusion the most frequent cause of bladder outflow obstruction is benign enlargement of prostate, impacted urethra stone and stricture urethra. [*Journal of Current and Advance Medical Research* 2018;5(1):3-6]

Keywords: Aetiologies; urinary tract obstructions; infection

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Introduction

When considering the causes of bladder outlet obstruction (BOO), it is important to appreciate that BOO results from a variety of etiologies, which may be functional or anatomic¹. BOO often produces lower urinary tract symptoms (LUTS), although the degree of bother by LUTS is highly variable and not predictable on the basis of the specific inciting etiology². Induced LUTS

symptoms may be predominantly obstructive, irritative, or often a combination of both. Typically, obstructive symptoms include hesitancy, sensation of incomplete bladder emptying, diminished urinary stream, and post voiding urinary dribbling. Irritative complaints include urinary urgency, frequency of urination, occasional dysuria, and nocturia³⁻⁴.

Rarely are symptoms related to BOO isolated; often the individual experiencing LUTS presents with a

variety of mixed symptoms of obstruction and irritation. BOO may also occur in the complete absence of symptoms and be first identified in the scenario of urinary retention or decompensation of the upper urinary tracts⁵.

Urinary bladder outflow obstruction is considered as one of the extreme catastrophe in comparison to other surgical emergencies¹. Obstruction is one of the most important abnormalities of the urinary tract, since it eventually leads to decomposition of the muscular conduits and reservoirs, back pressure, and atrophy of renal parenchyma. It also invites infection and stone formation, which cause additional damage and can ultimately end in complete unilateral or bilateral destruction of the kidneys².

There are numerous etiological factors associated with urinary outflow obstruction which are frequently encountered in day to day practice³. Among them benign enlargement of the prostate, carcinoma prostate, urethral stone, stricture urethra, rupture urethra, bladder neck obstruction, meatal ulcer with scabbing are seems to be commonest pathological events⁴. The present study was aimed to find out the aetiology of urinary tract obstructions.

Methodology

This study was designed as cross sectional study of 30 patients with bladder outflow obstruction. All of these patients were admitted in the general surgical unit of Rajshahi Medical College Hospital from the period of September 1994 to December 1995 for a period of one year and four months. All the patients who were presented with bladder outflow obstruction and were admitted in the general surgical unit of the hospital were taken as study population. The details etiologies were recorded after taking consent to enroll in this study.

Results

A total number of 50 patients were recruited for this study. The age of the patients was ranged from 2 to 70 years. The age range was 41 to 50 years. Majority of the study population were in the age group of 40 to 50 years which was 11(22.0%) cases followed by 51 to 60 years and 0 to 10 years which were 9(18.0%) cases in each group. Furthermore 21 to 30 years and 61 to 70 years old age group were in 8(16.0%) cases in each group. However, 31 to 40 years was in 3(6.0%) cases. In 11 to 20 year age group only 2(4.0%) cases were recorded (Table 1).

Table 1: Age Distribution among the Study Population (n=50)

Age Group	Frequency	Percentage
0 to 10 Years	9	18.0
11 to 20 Years	2	4.0
21 to 30 Years	8	16.0
31 to 40 Years	3	6.0
41 to 50 Years	11	22.0
51 to 60 Years	9	18.0
61 to 70 Years	8	16.0
Total	50	100.0

Male were overwhelming majority which was 96.0% and female was constituted only 4.0%. The male and female ratio was 24:1 (Table 2).

Table 2: Sex distribution of patients (n=50)

Sex	Frequency	Percentage
Male	48	96.0
Female	2	4.0
Total	50	100.0

The most frequent cause of bladder outflow obstruction was benign enlargement of prostate (26.0%), next common cause was impacted urethra stone (22.0%) and stricture urethra (22.0%). However the rupture urethra was found in 7(14.0%) cases; carcinoma of prostate was in 3(6.0%) cases and neurogenic bladder and urinary bladder neoplasm were in 2(4.0%) cases in each (Table 3).

Table 3: Relative incidence of different diseases for bladder outflow obstruction (n=50)

Disease	Frequency	Percentage
Benign enlargement prostate	13	26.0
Impacted urethral stone	11	22.0
Stricture urethra	11	22.0
Rupture urethra	7	14.0
Carcinoma Prostate	3	6.0
Neurogenic bladder	2	4.0
Urinary bladder neoplasm	2	4.0
Posterior urethral valve	1	2.0
Total	50	100.0

Discussion

Management and presentation of bladder outlet obstruction has under marked changes in the last 50 years. More experience, new techniques of surgery. Understanding of urinary bladder pathology and path physiology, modern scientific instrument, greatly improved the overall management⁵. But, still bladder outflow obstruction surgical problem.

The present study was done in Rajshahi Medical College Hospital, Rajshahi, Bangladesh, over a period of September 1994 to December 1995. This is one of the divisional medical college hospitals in this country where specialized urology unit is lacking and Mariology patients are managed in nasal surgical unit. Rajshahi Medical College Hospital is the biggest hospital in the northern side of Bangladesh. Therefore, the present study reflects pattern of urological problems in the zone. Fifty cases studied in this series included bladder outlet obstruction admitted in general surgical unit.

The age of the patients in this series ranged from 2 to 70 years. The peak incidence was 41 to 50 years; the age group which were commonly involved are 0 to 10 years (9.0%), 21 to 30 years (16%) and 41 above (56%). In the present series, 96.0% patients were male with male to female ratio of 24:1. Bladder outlet obstruction was less occurred in the female and it was due to the fact that in this series only surgical patients were included. Bladder outflow obstruction due to benign prostatic hyperplasia is a common problem in elderly men and by the age of 80 years most men have developed symptoms attributable to this disorder. The symptoms may be either obstructive or irritative in type. Less common causes of bladder outflow obstruction are bladder neck obstruction and urethral stricture.

The etiology of BOO is diverse and definitely gender specific⁷. Often anatomic causes induce functional abnormality that remains somewhat unique for each individual, regardless of sex. A full appreciation of the possible etiologies of obstruction is necessary in order to identify overt and more subtle scenarios. In women, iatrogenic causes of obstruction are the most common. Other entities account for far fewer of the cases. The obstruction evaluation in women is somewhat more diverse in terms of modalities used, with no single grouping of techniques that are generally apropos. Individualized evaluation remains a tenet of analysis, and urodynamic criteria used to diagnose BOO in women continue to evolve⁸. In men, by far the most common entity producing BOO is BPO/BPE. Again, symptomatic appraisal is a crucial component of evaluation in order to assess the magnitude of symptom impact. The combination of PVR, urinary flow measures, and symptom appraisal has been generally accepted as the initial screening and evaluation paradigm for BOO and LUTS in men and are now considered standard¹⁰. More complex techniques such as voiding pressure flow studies remain the gold standard and are more thoroughly standardized in men than in women.

Causes of bladder outlet obstruction were excluded from this series. In this series; benign enlargement of prostate was the common cause of the bladder outlet obstructions reported. Bladder outlet obstructions due to benign hyperplasia foretaste which is a common problem in elderly men, and by the age of 80 years, most men have developed symptom attributable to this factors. Majority of benign enlarged prostate in this series about 70 years of age but in another series, it was 80 years¹¹. The aetiology of the irritative symptoms is poorly understood. Obstruction of the urethra by an enlarged prostate leads to a poor urinary flow. The bladder may take longer to generate a high enough pressure to start the flow of urine, and this pressure may not be sustained over the (prolonged) voiding cycle⁹.

This leads to hesitancy and intermittency. Other causes of irritative symptoms which merit attention are bladder cancer, urinary tract infection, urethral stricture, bladder diverticula, bladder calculus, and neuropathic bladder dysfunction^{5,9}.

Conclusion

In conclusion benign enlargement of prostate is the most frequent cause of bladder outflow obstruction followed by impacted urethra stone and stricture urethra. Rupture urethra and carcinoma of prostate are also found as cause of urinary outflow obstructions. Further large scale study should be conducted as multicentre basis so that the result will represent the whole country scenario.

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