



CLINICAL STUDY OF ETIOLOGY AND MANAGEMENT OF BLADDER OUTLET OBSTRUCTION

General Surgery

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ABSTRACT

Bladder outlet obstruction is a blockage at the base of the bladder. The incidence of bladder outlet obstruction is different and varied in both age and gender. Hence this study was conducted to assess the etiology and management of bladder outlet obstruction in patients above 18 years of age in both sexes. This was a prospective study was conducted in department of general surgery, RNT medical college and MB hospital, Udaipur for one year after approval of institutional ethical committee. The patients admitted with the complaint of bladder outlet obstruction evaluated under-general physical examination, systemic examination, radiological investigations (X-Ray and USG KUB, RCUG/MCUG, CT/MRI), invasive investigations (cystourethroscopy). In this study, out of 50 patients maximum patients were male (49) and maximum incidence was observed in the age group of 60-70 years (17). Men were mostly affected from bladder outlet obstruction and most common age group was from 6th-7th decade of life. Benign prostatic hyperplasia is most common cause of bladder outlet obstruction in male and vesical calculus was most common in female. Maximum patients of benign prostatic hyperplasia underwent Transurethral resection of prostate.

KEYWORDS

Lower urinary Tract Symptoms (LUTS), Benign Prostatic Hyperplasia(BPH), Bladder Outlet Obstruction (BOO), Transurethral Resection of Prostate (TURP)

INTRODUCTION

Bladder outlet obstruction is a blockage at the base of the bladder.¹ Bladder outlet obstruction is a common cause of lower urinary tract symptoms in men and women. The condition is common in older men.² Most common cause of bladder outlet obstruction in men is benign prostatic hyperplasia. The incidence of Bladder Outlet Obstruction (BOO) is high among elderly men, with significant impact on their health and socio-economic wellbeing. An estimated 1.1 billion men are affected by BOO globally with the numbers of affected individuals forecast to increase with time, and the greatest rise is expected in developing regions of the world.³ Due to increased incidence of bladder outlet obstruction this study was conducted to assess frequent causes of bladder outlet obstruction and its various management for early diagnosis and better outcome.

AIMS & OBJECTIVE

1. To evaluate the etiology of bladder outlet obstruction.
2. Clinical evaluation and management of bladder outlet obstruction.

MATERIAL AND METHODS

This prospective study was conducted in the Department of Surgery, RNT Medical College and M.B Hospital, Udaipur presenting with bladder outlet obstruction was studied. Study was planned for one year after approval of institutional ethical committee.

Keeping in view of the availability and feasibility of the participants, a non-random convenient sampling technique was used. So consecutively patients/eligible participants was considered for the study.

Inclusion Criteria

- Patient of both sexes
- Age above 18 years.
- Patients presenting with signs and symptoms of bladder outlet obstruction.
- Patients who are willing to give consent for study will be included.

Exclusion Criteria

- Patients below 18 years.
- Patients with neurological, functional, pelvic trauma, pelvic surgery with post-operative retention and unconscious and comatose patients with retention.

Methodology

All the patients admitted with the complaints of bladder outlet obstruction, on the basis of history and clinical presentation patients were undergone:

- General physical examination (pulse rate, blood pressure, respiratory rate, pallor, cyanosis).
- Abdominal examination: Inspection, palpation, percussion and auscultation.
- Per rectal examination was done for evaluation of prostate.
- All routine investigations [CBC, Blood group, Serum electrolytes, RFT, urine for routine and microscopic, X-ray KUB.
- USG KUB & pelvis
- Cystoscopy (if indicated or prescribed by consultant doctor)
- CT/MRI (if indicated or prescribed by consultant doctor)
- RCUG/MCUG (if indicated or prescribed by consultant doctor)

Tables & Results

1. Gender Distribution-

Gender	No. of patient	Percentage
Male	49	98%
Female	1	2%

Out of 50 patients, Maximum patients (49) are male and male female ratio 49:1

2. Age distribution

Age group	No. of patients	Mean $\pm$ SD
10-20	0	0
20-30	2	26 $\pm$ 5.6
30-40	5	36.4 $\pm$ 1.67
40-50	4	47.25 $\pm$ 3.59
50-60	8	57.63 $\pm$ 2.3
60-70	17	65 $\pm$ 3.3
70-80	14	76 $\pm$ 3.4

According to Age wise out of 50 patients, maximum patients (17) are in age group of 60-70, next common (14) age group is 70-80. Least patients in 10-20 age group.

3. Diagnosis-

DIAGNOSIS	FREQUENCY	PERCENTAGE
Benign Prostatic Hyperplasia	20	40
Carcinoma Bladder	4	8.0
Carcinoma Prostate	6	12.0

Stricture Urethra	13	26.0
Vesical Calculus	7	14.0

Maximum number (40%) had Benign Prostatic Hyperplasia (BPH). 26% patients were diagnosed with stricture urethra, 14% with vesical calculus, 12% with Ca prostate. Few patients had Ca bladder (8%).

4. Treatment-

TREATMENT	FREQUENCY	PERCENTAGE
Trans Urethral Resection of Prostate (TURP)	16	32.0
Medical management of BPH	4	8.0
Direct Visual Internal Urethrotomy (DVIU) and Dilatation	13	26.0
Bilateral orchidectomy	6	12.0
Cystolitholapaxy	5	10.0
Cystolithotomy	2	4.0
Trans Urethral Resection of bladder Tumor (TURBT)	4	8.0

Most common (16) treated as TURP for BPH and remaining 4 (8%) patients received medical management. 13 (26%) underwent Direct Visual Internal urethrotomy and dilatation for stricture urethra. 6 (12%) underwent bilateral orchidectomy for carcinoma prostate. 5 (10%) underwent cystolitholapaxy and 2 (4%) underwent cystolithotomy for vesical calculus. 4 (8%) underwent transurethral resection of bladder tumor for carcinoma urinary bladder.

DISCUSSION

As per gender distribution, out of 50 patients maximum 49 patients were male and 1 was female, Male: Female- 49:1. As per age distribution, maximum (17) patients belonged to age group 60 to 70 years of age. Next most common (14) age group was 70 to 80 years of age and least was below 20 years. Mean age of participants in our study was 61.5 years.

The age of the patients in the research by Alam J et al.⁴ 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 their research, 96.0% patients were male with male to female ratio of 24:1. 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. As per study by Adjei K A et al. (2018)⁵, the mean age (69.1 years) of the participants is similar to that of a previous study on urinary tract infection among Bladder Outlet Obstruction patients.

In our study, Maximum number 20(40%) had Benign prostatic hyperplasia, next 13 (26%) patients were diagnosed with stricture urethra, 7 (14%) with vesical calculus, 6 (12%) with Carcinoma prostate and least was carcinoma bladder 4(8%). Earlier in research study done by pradeep katawar et al.⁶, out of 100 patients, 53 patients (50%) had BPH, 14 had stricture urethra, 12 with vesical calculus, 8 with Carcinoma prostate and least was Carcinoma bladder. According to this study most common cause for Bladder outlet obstruction is BPH and least was Carcinoma bladder. The most frequent cause of Bladder outlet obstruction in the study by Adjei K A et al.⁵, were benign prostatic hyperplasia (73.9%) and urethral stricture (13.3%), which concurs with the previous study in Kumasi, which reported 76.7% prostatic hyperplasia prevalence and 22.3% urethral stricture.

In our study, out of 50 cases 16 (32%) underwent for TURP and remaining 4 (8%) underwent for medical management for Benign prostatic hyperplasia, 7 (14%) patients with stricture urethra were treated by dilatation and remaining 6(12%)underwent direct visual internal urethrotomy for stricture urethra, 5(10%) underwent cystolitholapaxy and 2(4%) underwent cystolithotomy for vesical calculus, 6(12%) underwent to B/L orchidectomy for carcinoma prostate, 4(8%) underwent transurethral resection of bladder tumor (TURBT) for carcinoma bladder.

In earlier study done by prateep atawar et al.⁶, out of 94 cases 37 underwent for TURP and remaining 11cases underwent for medical management for BPH, 7 patients with stricture urethra were treated by uretheroplasty and remaining 7 cases underwent direct visual internal urethrotomy for stricture urethra, 3 cases underwent cystolithotomy and 9 underwent cystolithotripsy, 8 cases underwent to B/L

orchidectomy for carcinoma prostate, 5 underwent open prostatectomy, 7 cases underwent radical cystectomy and ileal conduit.

CONCLUSIONS

In our study most common age group associated with bladder outlet obstruction is 6th to 7th decade. Men are most commonly associated with these symptoms. Male to female ratio is 98:2. On clinical, radiological and cystoscopic evaluation maximum patients had prostatomegaly, followed by stricture urethra, vesical calculus and least was carcinoma of urinary bladder. On the basis of histopathological evaluation maximum patients had Benign Prostatic hyperplasia among all patients of prostatomegaly, few had carcinoma prostate. Benign prostatic hyperplasia is most common cause of bladder outlet obstruction followed by stricture urethra, vesical calculus, carcinoma prostate and carcinoma bladder. Maximum patients of BPH underwent for TURP and few received medical management. Dilatation and Direct visual internal urethrotomy was done for stricture urethra. Cystolitholapaxy and cystolithotomy were done for vesical calculus. Bilateral orchidectomy was done for carcinoma prostate. TURBT was done for carcinoma urinary bladder.

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