



A STUDY TO FIND THE PROPORTION OF VESICAL CALCULUS IN PATIENTS WITH BENIGN HYPERPLASIA OF PROSTATE

Urology

Dr. Aravind S Ganapath*

Senior Resident, Department of Urology, Government Medical College, Trivandrum.
*Corresponding Author

Dr Nirmal K P

Assistant Professor, Department of Urology, Government Medical College, Trivandrum.

Dr. Archana M P

Senior Resident, Department of Internal Medicine, Government Medical College, Trivandrum.

ABSTRACT

Vesical Calculus accounts for 5% of all types of urolithiasis. They are formed secondarily mainly due to benign hyperplasia of prostate. The aim of this study was to find the proportion of patients with vesical calculus among patients with benign hyperplasia of prostate. This study was done in a tertiary referral centre for a period of one year. A total of 900 patients participated in this study and in them 87 (9.67%) patients had vesical calculus.

KEYWORDS

Urolithiasis, Vesical Calculus, Benign Prostatic Hyperplasia

INTRODUCTION

Urolithiasis is a disease of mankind since ancient ages. Stone can form in various sites of urinary tract. Vesical calculi accounts for 5% of all urolithiasis. Stones in bladder are classified into primary, secondary and migratory. Primary bladder calculi are those which form de novo. Secondary calculi are those which form due to causes like benign hyperplasia of prostate, neurogenic bladder or stricture urethra. Migratory calculi are those which form within the kidney and then later migrate to the bladder. Benign Prostate Hyperplasia (BPH) is a very common disease in adult men and its incidence rises with increasing age. The prevalence of prostatic enlargement is near to 25% in men aged 40 to 49 years, 50% in men aged 50 to 59 years, and 80% in men aged 70 to 79 years according to Baltimore study on aging. Benign hyperplasia of prostate is the most common cause of bladder outlet obstruction in elderly individuals and one of the common complications of bladder outlet obstruction is formation of secondary vesical calculus. Formation of vesical calculus in patients with benign hyperplasia of prostate is considered as an indication for surgical management.

Aim of the study

To find the proportion of vesical calculus in patients with benign hyperplasia of prostate.

METHODOLOGY

Study design:

Descriptive cross sectional study

Study setting:

Department Of Urology, Govt. Medical College Thiruvananthapuram, for a period of one year from 1st August 2018 to 31st July 2019.

Inclusion Criteria

Patients with benign hyperplasia of prostate attending Urology department of Medical College, Thiruvananthapuram during the study period.

Exclusion Criteria

1. Patients with history of renal or ureteric calculus.
2. Those who are not willing to give consent.

Method of collection of data

A structured proforma was used and ultrasound was used to confirm prostate enlargement along with clinical features and PSA values. Vesical calculus was diagnosed using ultrasonography and X Ray pelvis.

Sample size:

Sample size was calculated using the formula

$$N = 4pq/d^2$$

Where p is the proportion of subjects with the expected character.

$$q = 1 - p$$

$$d = 20\% \text{ of } p$$

Incidence of bladder calculi is 10% according to study by Jong Wook

Kim, MiMi Oh, Hong Seok Park, Jun Cheon, Jeong Gu Lee, Je Jong Kim, and
Du Geon Moon et al (5).
So sample size is 900.

Statistical analysis

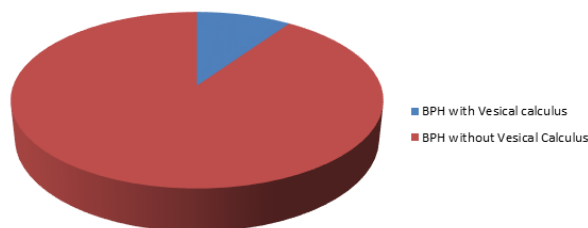
Data was entered in Excel sheet.

The collected data was analyzed using appropriate statistical software SPSS.

RESULTS

Total 900 patients participated in this study. Of them 87 patients had vesical calculus and 813 patients did not have vesical calculus. So the incidence of vesical calculus is 9.67%.

Proportion of patients with BPH having Vesical Calculus



DISCUSSION

Vesical calculus is known since ancient period. It is usually secondary to a predisposing cause like BPH (1-3). BPH patients have 8 times more risk for forming a vesical calculus than normal patients. It classically presents with stuttering micturition or even acute retention. It can also cause significant hematuria which is the most common symptom. It accounts for 5% of all stone disease(4).

Total 900 patients participated in this study. Of them 87 patients had vesical calculus and 813 patients did not have vesical calculus. So the incidence of vesical calculus is 9.67%. This is similar to previously published studies. In a similar study by Jong Kim et al the incidence of vesical calculus was found to be 10% (5).

Secondary bladder calculi are the commoner type of bladder calculi and are associated with lower urinary tract obstruction. Bladder outlet obstruction is seen in 45-79% of patients with vesical calculus. Usually a single stone is seen but multiple stones may also be seen in around 25% cases (6, 7).

Management of vesical calculus involves correction of the predisposing factors also. Historically non operative management in the form of dissolution using renacidin or acetohydroxamic acid was employed. But these were associated with significant side effects and hence not in common use now. Surgical management is the mainstay of management of vesical calculus. Options include open and

percutaneous cystolithotomy, cystolitholopaxy and extracorporeal shockwave lithotripsy (8).

CONCLUSION

The proportion of vesical calculus in patients with BPH in our study is 9.6% which is similar to other published studies.

REFERENCES

1. Wein et al. - CAMPBELL-WALSH UROLOGY, ELEVENTH EDITION.pdf.
2. Schwartz and Stoller - 2000 - THE VESICAL CALCULUS.pdf.
3. Hammad FT, Kaya M, Kazim E. Bladder calculi: did the clinical picture change? Urology. 2006 Jun;67(6):1154-8.
4. Philippou et al. - 2012 - The Management of Bladder Lithiasis in the Modern .pdf.
5. Kim JW, Oh MM, Park HS, Cheon J, Lee JG, Kim JJ, et al. Intravesical Prostatic Protrusion Is a Risk Factor for Bladder Stone in Patients With Benign Prostatic Hyperplasia. Urology. 2014 Nov;84(5):1026-9.
6. Kamat N. Transurethral Resection of Prostate and Suprapubic Ballistic Vesicolithotomy for Benign Prostatic Hyperplasia with Vesical Calculi. J Endourol. 2003 Sep;17(7):505-9.
7. Philippou P, Moraitis K, Masood J, Junaid I, Buchholz N. The Management of Bladder Lithiasis in the Modern Era of Endourology. Urology. 2012 May;79(5):980-6.
8. Richter S, Ringel A, Sluzker D. Combined cystolithotomy and transurethral resection of prostate: best management of infravesical obstruction and massive or multiple bladder stones. Urology. 2002 May;59(5):688-91.