

Original article:

Surgical management of urinary bladder calculi

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Abstract:

Introduction: Vitamin A deficiency and bladder stone was a common finding. Both have almost disappeared from well nourished part of India. However pediatrics and adult stone disorder has increased in the form of renal and ureteric calculi. In adult most of the bladder calculi are dropped renal calculi i.e. migration of upper tract stone into the bladder.

Methodology: The study was carried out in Department of surgery. After admission of the patient to the hospital, a proforma was filled up making routine entries regarding following aspects:

Results: All these 89 patients of bladder calculi were evaluated by taking x-ray KUB to know the exact location of bladder stone, (Bladder or prostatic urethra) number of bladder stones and any associated kidney or ureteric stones. Out of 32 cases of children in our series, 25 patients were having a single calculus in the bladder, 4 patients were having more than one calculus (2 or 3 calculi) and 3 patients were having associated renal calculi.

Conclusion: A very important finding in our series as also supported by many authors, was that not a single case of operated vesical calculus had a recurrence.

Introduction:

Vitamin A deficiency and bladder stone was a common finding. Both have almost disappeared from well nourished part of India. However pediatrics and adult stone disorder has increased in the form of renal and ureteric calculi. In adult most of the bladder calculi are dropped renal calculi i.e. migration of upper tract stone into the bladder. The study entails an effort to present the comprehensive study of human urinary bladder calculi, coming to Pravara Rural Hospital.¹

Methodology:

The study was carried out in Department of surgery. After admission of the patient to the hospital, a proforma was filled up making routine entries regarding following aspects:

1. Chief complaints:

The main complaints of the patient were noted in chronological order or the questions asked were:

- a) Type and site of pain while micturition
- b) Complains like burning micturition and haematuria.
- c) Excessive crying and pulling at the tip of penis while micturition in cases of children.
- d) Complains related to bladder outlet obstruction like frequency, hesitancy, precipitancy, increased nocturnal frequency etc.

Radiological examination:

1. Plain X-ray abdomen (KUB): After proper preparation of bowel KUB was done in all cases.
2. Ultrasonography: done in every patient with full bladder with emphasis on visualisation of bladder stone, number, condition of bladder wall, prostate size and post void volume and any presence foreign body.
3. Intravenous urography (cretory urography) : done in selected patients of bladder stone with associated renal or ureteric calculi.

Results:

Table No. 1: Operative procedure done

S.No.	Procedure	No. of cases	Percentage (%)
1	Suprapubic cystolithotomy	72	80.89%
2	Cystoscopic removal bladder stones	07	7.86%
3	Suprapubic cystolithotomy TURP	08	8.99%
4	Suprapubic cystolithotomy + Freyer's prostatectomy	02	2.25%

Table No. 2: Causes of Bladder stone formation in Males:

S.No.	Causes	No. of cases	Percentage (%)
1	Primary or endemic bladder calculi	40	44.94%
2	Dropper renal calculi (Migrated renal calculi in the bladder)	39	43.80%
3	Bladder calculi with outlet obstruction (i.e. BEP)	10	11.23%
4	Bladder stone over a foreign body as a nidus	00	00

Discussion:

All these 89 patients of bladder calculi were evaluated by taking x-ray KUB to know the exact location of bladder stone, (Bladder or prostatic urethra) number of bladder stones and any associated kidney or ureteric stones. Out of 32 cases of children in our series, 25 patients were having a single calculus in the bladder, 4 patients were having more than one calculus (2 or 3 calculi) and 3 patients were having associated renal calculi.³

In 57 adult patients, 5 patients were diagnosed have a ureteric bladder calculus impacted at the bladder neck causing retention of the urine. 6 patients showed multiple vesical calculi, the cause of which was generally bladder outlet obstruction in the form of BEP. Rests of the patients were having a single bladder calculus on x-ray KUB. 5 patients showed associated renal calculi.⁴

All the 89 patients of bladder stones were subjected for ultrasonography of the abdomen and pelvis. It not only confirms the number and location of bladder stones, but also gives idea about the condition of the bladder (i.e. any

evidence of cystitis) conditions of the kidney and ureters (i.e. any evidence of hydronephrosis or hydroureter) and associated renal and ureteric calculi.

The standard treatment options for removal of bladder stones include Chemo-dissolution, trans urethral extraction with or without mechanical electrohydraulic or ultrasonic fragmentation and open cystolithotomy. Micro explosion cystolithripsy and ESWL are recent addition to this.

Because of lack of facilities, open cystolithotomy was a standard treatment in our hospital. In our series, 72 (80.89%) cases underwent a plain suprapubic cystolithotomy with evacuation of bladder stones. In 5 patients with impaction of ureteric stone in prostatic urethra with retention as well as two other patients with small vesical calculi, cystoscopic removal was done.⁵

8 out of 10 patients with vesical calculi associated with benign enlargement of prostate underwent TURP as well as open cystolithotomy and in 2 patients Freyer's prostaticomy was performed along removal of stones.

Conclusion:

A very important finding in our series as also supported by many authors, was that not a single case of operated vesical calculus had a recurrence.

References:

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