

## **SURGICAL TREATMENT OF BENIGN PROSTATIC HYPERPLASIA: OUTCOME OF TRANSVESICAL PROSTATECTOMY**

SALIM KHATTAK, ASGHAR KAMAL AND AZIZ MARJAN KHATTAK  
*Departments of Surgery, Medicine and Pathology, Gomal Medical College, D. I. Khan*

*Benign Prostatic Hyperplasia (BPH) is a common disease in elderly people. Different treatment options i.e medical and surgical are available. Transvesical prostatectomy is commonly employed for BPH in our set up. The procedure is analysed and discussed in this prospective study. The objectives include the evaluation of the results of trans-vesical prostatectomy regarding short and long term complications, ways to bring down complications, manageability within the available resources and compare the out come with the reported literature about the treatment of BPH. The study was carried out at the District Head Quarter Teaching Hospital D. I. Khan from January 2000 to December 2002 i.e for a period of three years. A total of 209 cases of enlarged prostate were evaluated. Preoperative assessment of the patients for prostate size, status of urinary tract was done on admission, and bladder wash with normal saline carried out for 12-14 hours. Postoperative complications were recorded and compiled. Patients were discharged after removing catheter on 6th postoperative day and being able to pass urine. Patients were followed for 6 months to one year. Majority of patients presented between 50 and 90 years. Mean age was 63.43 years. Over all complications were 42%. Preoperative catheterization caused infection which played a major role in postoperative morbidity. Perioperative antibiotics and bladder instillation with povidone-iodine reduced infection. Transurethral resection of prostate (TURP) is gold standard for BPH, however transvesical prostatectomy still has a place in modern urology and must be taught to trainees.*

**Key Words:** BPH, TURP, open prostatectomy, complications.

### **INTRODUCTION**

Benign Prostatic hyperplasia (BPH) is the commonest cause of urinary problems in elderly males affecting the quality of life<sup>1</sup>. About 10% of patients will need surgical intervention at some stage. Dihydrotestosterone, the active form of testosterone (through the action of 5-alpha reductase) is responsible for prostatic hyperplasia and 5-alpha reductase inhibitors provide base for medical treatment. Modalities of treatment include watchful wait, medical treatment like alpha blockers and fenesterides for small prostate with mild symptoms and surgical treatment like TUIP, TURP<sup>2</sup>, open prostatectomy for symptomatic prostates of moderate to large size, laser ablation, thermotherapy, use of urethral stents and ballooning for poor risk patients<sup>3,4</sup>. Transurethral resection of prostate (TURP) has replaced open prostatectomy<sup>5,6</sup> in developed countries, a procedure still common in developing countries where lack of facilities and late presentation with huge prostate is the reason for employing it<sup>7</sup>. Other main reason for employing open prostatectomy is associated

complications like vesical calculus or diverticulae. Open prostatectomy is still enjoying a respectable place in urology because long term results and patients' compliance rate are acceptable<sup>8,9</sup>.

Open prostatectomy (Milan's and transvesical) is one stage procedure intended to remove prostatic adenoma<sup>10</sup>. It appears more horrible from the scene of blood but it is safe and easy to perform. No special or sophisticated equipment is required. This study was carried out to analyze the results of transvesical prostatectomy as this is the only procedure carried out in our set up.

### **SUBJECTS AND METHODS**

This retrospective study was carried in DHQ Teaching Hospital D. I. Khan from January 2000 to December 2002. A total of 213 cases with enlarged prostate were evaluated. Patients were admitted a day earlier. Clinical presentation, USG assessment of prostatic size and status of urinary tract and haematological examination for renal insufficiency were assessed. Complicating factors

like chronic retention, catheterization or risk factors for anaesthesia worked out. All the patients were operated on the next list using spinal or general anaesthesia. Open prostatectomy was performed, any bleeding points transfixed and bleeding from prostatic bed stopped. Postoperative bladder wash with normal saline carried out for next 12 to 24 hours. Prostatic specimens removed were sent for histopathology and reported malignant cases (four) were excluded from the study. All the complications were recorded and compiled. The results obtained were analyzed. Follow up findings for up to six months to one year were recorded.

**RESULTS**

**Age**

Majority of patients presented between 50 and 90 years with peak incidence in 6th decade. Mean age was 63.43 years. In a total of 209 cases, 118 (56.49%) presented with prostatism, 63 (30.16%) as acute retention and 28 (13.35%) cases as chronic retention (Table 1 & 2 and Fig. 1 & 2). Preoperative catheterization was carried out in 89 (42.58%) cases.

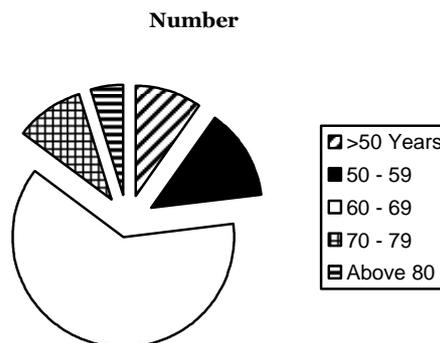


Fig. 1: Shows age wise distribution of cases.

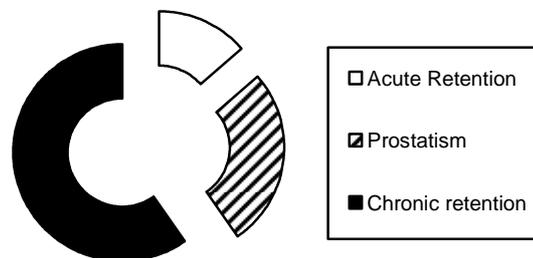


Fig. 2: Shows presentation of cases of BPH.

Table 1: Age incidence of cases of BPH.

S. No.	Age of Patient	% age
1.	< 50 Years	4 (01.91%)
2.	50 - 59	30 (14.15%)
3.	60 - 69	142 (68.16%)
4.	70 - 79	27 (12.91%)
5.	Above 80	6 (02.87%)
	Total	209 (100%)

Table 2: Presentation of cases of BPH.

S. No.	Clinical Presentation	% age
1.	Acute Retention	63 (30.16%)
2.	Prostatism	118 (56.49%)
3.	Chronic retention	28 (13.35%)
	Total	209 (100%)

**Post Operative Complications**

(a) **Short term:**

A large number of immediate post operative complications were related to infection. Post operative Orchitis (12.44%), wound infection (10.52%), secondary haematuria (3.82%) and suprapubic

Table 3: Immediate Postoperative complications after transvesical prostatectomy.

S. No.	Complications	No.	% age
1.	Orchitis	26	12.44%
2.	Wound infection	22	10.52%
3.	Transient incontinence	7	3.34%
4.	Chest infection	10	4.78%
5.	Secondary Haematuria	8	3.82%
6.	Suprapubic urinary leak	7	3.34%
7.	Clot retention	4	1.91%
8.	True incontinence	4	1.91%
	Total	88	42.10%

leak (3.34%) were all directly related to infection. This high incidence of infection was mainly seen in those cases where patients were catheterized before and had infected urine Table 3 and Fig. 3).

#### (b) Long term:

On 6<sup>th</sup> week and 6<sup>th</sup> month follow up visits, majority of the patients had satisfactory outcome. Infection persisted for variable period and finally subsided. Four cases had true incontinence, 6 cases had impotence or retrograde ejaculation. Only two patients had stricture mainly in the posterior urethra, which were dilated and improved in one or two settings (Table 4). No re-operation was performed.

**Table 4:** Long term Complications.

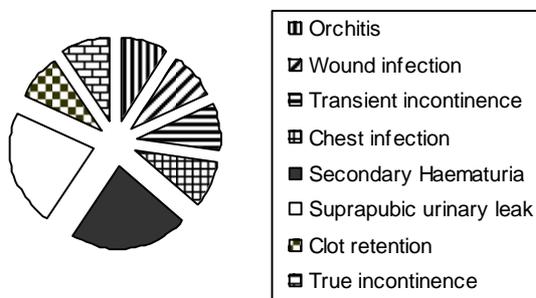
S. No.	Complications	No.	% age
1.	Incontinence	4	1.91%
2.	Stricture	2	0.95%
3.	Impotence	6	2.87%

#### Culture Report / Organism Cultured

Culture report of cases with infection, orchitis, or secondary haematuria, showed mainly E. Coli or mixed organisms. Less sensitive organisms like Proteus, Klebsiella and Pyocyanous counted little for the infection, however they were difficult to treat (Table 5).

#### Hospital Stay

Shortest hospital stay was 6 days and longest stay was 21 days with average stay of 7.2 days.



**Fig. 3:** Shows complications of open (Transvesical) Prostatectomy.

**Table 5:** Frequency of organism cultured.

Organism Cultured (N = 70)		
E. Coli	26	37.14%
Proteus	13	18.57%
Klebsiella	6	8.57%
Pyocyanous	5	7.14%
Mixed	20	28.57%

#### Mortality

No direct mortality was reported, however two deaths from myocardial infarction occurred on 8<sup>th</sup> and 13<sup>th</sup> day of operation.

#### DISCUSSION

BPH is a common urinary problem after the age of 50 years, 50-59 years<sup>11</sup> with the average age between 60 and 70 years. Average age in our study is 61.44 years which is about the same as in another study<sup>12</sup>. Four (1.91%) cases were below 50 compared to 9% in another study<sup>13</sup>. Six (2.87%) cases presented above 80 years.

Sixty three (30.16%) cases presented as acute retention of urine compared to 60% by Khan<sup>14</sup> and 28 (13.35%) presented as chronic retention of urine. History of the previous catheterization was present in 42.58% cases. Size of prostate correlated with duration of symptoms. In 86 (41.14%) cases, size of prostate was between 50g and 60g, in 45 (21.53%) cases, size was in the range of 60-70g and having history of 1-5 years. Average size was 61.30g. In one case, size of prostate was reported to be 124g.

Over all complication rate was 32.10% compared to 35% for TURP and 36% for open prostatectomy<sup>9</sup>. Significant complications were related to infection<sup>11</sup> and high rate of infection related complications were seen in cases who had preoperative catheterization. Secondary haematuria, suprapubic leak, wound infection, pyuria and orchitis constituted major complications<sup>15</sup>. Common organisms involved were E. Coli, proteus and mixed ones. However, with preoperative and per-operative instillation of bladder with povidone iodine and suitable antibiotics<sup>16,17</sup>, an improvement was seen in cases having infected urine. Other complications like clot retention were seen in 4 (1.91%), chest infection in 10 (4.78%) and incontinence in 4 (1.91%) cases. They were all within acceptable limits. Long term complications were incontinence in 4 (1.91%), stricture in 2 (0.95%) and impotence 2 (2.87%) cases. No re-operation

was carried out. Hospital stay was for 6-7 days compared to 13 days<sup>14</sup>.

Analyzing the results of the study and other related literature about BPH, it is clear that medical treatment is employed for small size prostate<sup>18</sup>, TURP for average size prostates and / or patients unfit for open prostatectomy<sup>19</sup> and open prostatectomy for large sized prostate and in old age of about 80 years<sup>20</sup>. In our study majority of the cases were ideal candidates for open prostatectomy because of prolonged history, large size and old age as TURP is less effective to overcome the obstruction of urinary flow<sup>4</sup>. It is presumed that with the advancement of technology, indications for open prostatectomy will reduce. Surprisingly in our study, only 10% cases were suitable for TURP because of small size, which were managed conservatively with medicines. Delayed presentation and large prostates shifting the indications in favour of open prostatectomy.

Scanning international literature for the treatment of BPH, TURP is the gold standard for the operative treatment of BPH<sup>21,22</sup>. Because of technological developments and early presentation, small prostates are ideal for TURP and to reduce renal and cardiac complications<sup>23</sup>. Open prostatectomy is still employed for cases of large size prostate (> 50-66 g) and is considered useful in elderly<sup>17</sup>. Further, overall short and long term complications of TURP and open prostatectomy are comparable<sup>24,25</sup>, open procedure is still considered alternative for TURP. Choice depends upon accurate assessment<sup>26</sup> and the final decision about best treatment for particular patient must be taken according to patient's preference after discussing different options<sup>1</sup>.

## CONCLUSION

TURP is gold standard for the treatment of BPH but open prostatectomy still has a respectable place in urology. Avoiding prolonged preoperative catheterization will reduce infection, lowering complication rate, shorten hospital stay and reduce overall expenses. Bladder instillation and flush chemotherapy plays important role in bringing down infection.

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