

# Transurethral Resection of Prostate (TURP) – A Treatment Modality for Benign Prostatic Hyperplasia (BPH)

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This prospective study was done to know the complications of TURP as a treatment modality for BPH. 1200 patients having TURP at Jinnah and Mayo Hospital, Lahore from 1996 to 2002 were included. All the patients were evaluated by history, examination and investigations. Age range included from 45 to 115 years. Retention of urine was commonest indication for the procedure followed by raised prostatic symptom score. Seventy-two percent patients had prostate size between 31 to 50 gram on DRE and Ultrasonography. Hypertension, DM and pulmonary diseases were common co-morbid conditions in these patients. In early complication clot retention in 8% and UTI in 7.6%, and failure to void in 4.7%. In the late complication stricture 6%, impotence 2.3% and incontinence 0.5%. Histopathology detected carcinoma of the prostate in 6% patients.

**Key words:** TURP, BPH, complications

Urinary difficulties have presented problems to elderly men and their physicians dating back to antiquity<sup>1</sup>. Despite its long history Benign Prostate Hyperplasia (BPH) was not identified as a disease entity until the 19th century. It is one of the most common diseases of elderly men is defined histologically by the presence of non-malignant nodule arising in small region around the proximal segment of prostatic urethra<sup>2</sup>. Majority of men over 50 years of age are considered to have some urinary symptoms attributable to BPH<sup>3</sup>. TURP is a second generation surgical technology for the treatment of obstructive uropathy induced by BPH. First generation surgical treatment began a century ago with the introduction of open enucleation of prostatic adenoma<sup>4</sup>. TURP remains second only to cataract surgery on the list of medicare (USA) most commonly performed surgical procedure<sup>5</sup>. TURP performed on properly selected patients is unmatched for the long term beneficial outcome and symptoms improvement. Despite the advanced age and compromised general health of most men undergoing this operation, its mortality and morbidity is remarkably low. While this operation is being challenged by the new emerging strategies of management for BPH, the efficacy and durability of these is still to be defined. TURP currently remains the gold standard against which all other therapies for BPH must be judged.

## Material and methods

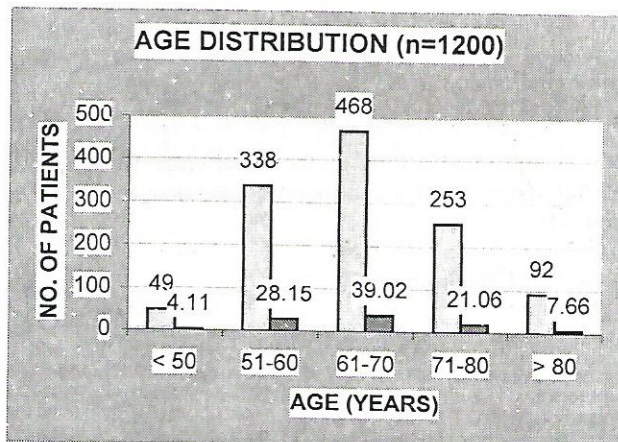
This prospective study was conducted from 1996 to 2002 at Urology Departments of Jinnah Hospital (AIMC) and Mayo Hospital (KEMC), Lahore. Patients of BPH treated by TURP were included in this study.

All patients were evaluated by detailed history specifically for lower urinary tract symptoms and associated medical illnesses, complete physical examination including digital rectal examination (DRE). Urine analysis, blood complete examination, urea/creatinine, blood sugar (R), X-chest (PA-view), ECG

and ultrasonography of abdomen including post-micturition residual urine was done in all cases. The procedure was done under spinal, epidural or general anaesthesia according to the choice of anesthesiologist. Lignocaine gel was used for lubrication of urethra prior to instrumentation. Urethroscopy was performed in every patients to note down findings. Continuous irrigation mode with 5% dextrose water as irrigating fluids and 27 Fr. resectoscope sheath was used. Foleys catheter 3-way 22 Fr. was passed after the procedure and irrigation with normal saline was done, removal of the catheter and discharge of the patient on third day. Second or third generation Cephalosporine Injection was given at the time of the procedure as prophylaxis. Prostatic chips were sent to Lab. for histopathology and reports collected. All the data and complications were noted in the proforma designed for this study.

## Results

A total number of 1200 patients underwent TURP were included in this study. The age range of the patients were 47 – 115 years and the mean age was 65.5 years (Graph – 1).



The most common indication for TURP was retention of urine others being raised prostatic symptoms score, haematuria, obstructive renal failure etc. (Table 1).

Table 1: Mode of Presentation

Mode	n=	%age
Retention	724	60.3
Symptoms	193	16.1
Haematuria	99	9.3
Obstructive RF	75	6.2
Recurrent UTI	48	4.1
Bladder stone	38	3.1
Hernia	23	1.9

Hypertension, diabetes mellitus and pulmonary diseases were common associated medical illnesses in these patients followed by ischemic heart disease, acid peptic disease, chronic renal failure and chronic liver disease (Table 2).

Table 2: Co-morbid Conditions

Associated Illness	n=	%age
Hypertension	262	21.86
DM	218	18.13
Pulmonary Dis.	126	10.50
IHD	64	5.33
APD	55	4.60
CRF	18	1.53
CLD	15	1.26

Most of the patients (72%) had size of the prostate from 31 to 50gms. range as assessed by DRE and ultrasound. About 20% of patients had prostate size more than 50gm. Only 7% patients had general anaesthesia, 26% epidural and 67% had spinal anaesthesia. In the early complications clot retention occurred in 8%, urinary tract infection in 7.6% bleeding in 5.4%, failure to void in 4.7%, urge incontinence 2.5%, bladder perforation 0.9% and TURP syndrome 0.8% (Table 3).

Table 3: Early Complications

Complications	n=	%age
Clot retention	98	8.2
UTI	91	7.6
Bleeding	65	5.4
Failure to void	56	4.7
Urge incontinence	31	2.6
IHD	19	1.6
Perforation	11	0.9
TURP syndrome	9	0.8
Mortality	5	0.4

Out of late complications urethral stricture formation in 6%, impotence in 2.3% and incontinence occurred in 0.5% (Table 4).

Table 4: Late Complications

Complications	n=	%age
UTI	89	7.4%
Stricture	67	5.7%
Impotence	27	2.3%
Incontinence	6	0.5%

Histopathology report showed 6% patients had carcinoma of the prostate, 71% had BPH and 23% BPH with chronic prostatitis.

### Discussion

BPH affects proximately 50% of men aged 60 years and above, even incidence is about 80% in some studies<sup>6</sup>. About 1/3<sup>rd</sup> of all these patients would have surgery for BPH<sup>7</sup>. Transurethral resection of prostate for BPH is most widely accepted gold standard and dominant urological procedure performed at any urological center<sup>8</sup>. In this study the commonest mode of presentation was retention of urine (60%) followed by raised prostatic symptoms score. This is in contrast to studies in the west where the patients presented with retention of urine are below 10% and the commonest presentation there is the raised prostatic symptoms score<sup>9</sup>. Reason for this difference is that patients with BPH in our country consider the symptoms of the prostate as a physiological aging process and they don't report to physician for their prostatic symptoms. In our study the age group of the patients varies from 47 to 115 years which is comparable with the International studies<sup>9</sup>. Hypertension and diabetes mellitus were common co-morbid conditions noted in our patients. These medical illnesses are relatively more common than cited in the literature<sup>10</sup>. It is probably due to that this study includes the patients being treated in tertiary care hospitals where more patients with co-morbid conditions are admitted.

In the immediate post-operative complications. Morbidity rate was 20% in this study which is comparable with the TURP done in the United States<sup>10</sup>. Urinary tract infection was more in our patients as compared to the United States most probably due to that majority of our patients presented with retention and were catheterized in the periphery without adopting the aseptic measures and secondly diabetes mellitus is the more commonly associated medical illness in our patients. TURP syndrome rate was low (0.8%) as compared to quoted in other studies (2%) in the west. The reason may be that the patients with prostate size of more than 50 gm was less as compared to other studies.

Operative mortality of TURP had decreased dramatically over the past 30 years. In large similar retrospective studies, the rate has fallen from 2.5% in 1962<sup>(11)</sup> to 1.3% in 1974<sup>12</sup> to 0.2% in 1990<sup>10</sup>. In our study mortality rate was 0.4%, which was also due to cardiovascular and pulmonary diseases. In the long term complications urethral stricture rate was high (6%) as compared to studies (3.1%) reflecting the outcome of 2003 patients in the Europe<sup>13</sup>. Most probable reason is high urinary tract infection rate in our patients, while other complications like incontinence and impotence are comparable with other studies. According to histopathology report about 6% of patients has been diagnosed as carcinoma of the prostate, while the

carcinoma detection rate varies from 2.5 to 9% in different studies<sup>9</sup>.

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