

# A personal experience with the first 100 TURP at the Penang General Hospital

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## Summary

Transurethral Resection of the Prostate (TURP) is now the preferred method for dealing with the obstructing prostate. This procedure was reintroduced to the Penang General Hospital in August 1985. Over the next one and a half years, 100 TURP were performed by the author (NYTL). This paper reviews this initial experience. Of the patients, 17.7% required blood transfusion of one unit each. The mean post operative stay was 4.8 days. There were no immediate deaths. This experience confirms the acceptable results of TURP in the treatment of patients with benign prostatic hypertrophy in the Malaysian context.

**Key words:** Transurethral resection, prostatic hypertrophy, prostatectomy.

## Introduction

Transurethral Resection of the Prostate (TURP) is a relatively modern surgical procedure which is now the established method for dealing with the obstructing prostate. Its good results and advantages with a low morbidity have now been well documented.<sup>1,2</sup> It was first used in the Penang General Hospital in 1975 where it was practiced for three years. It was reintroduced in August 1985 and this paper reviews the personal experience with the first 100 TURP which were performed over a one and a half year period.

## Materials and methods

During this one and a half year period, a total of 332 transurethral procedures were carried out. Of these, 166 were mainly cystourethroscopy with or without biopsy or retrograde pyelography. Simple procedures like cystodiathermy during check cystoscopy were also included in this category. The second group comprising of 66 procedures included more complicated manoeuvres like transurethral resection of bladder tumours, optical urethrotomy, deroofting of ureteroceles and litholapaxy. During the same one and a half year period, 100 TURP were performed. Ninety-eight of these case histories were available for this study.

The mean age of these patients was 69.6 years, ranging from 50 to 87 years. Of the patients, 83.7% were between 60 to 80 years old. Age was no contraindication to TURP. There were eight patients in the 80 to 90 years age group. No particular ethnic group was at an increased risk. The racial distribution was the same as the overall hospital admissions.

**Mode of presentation:** Of the patients, 65.3% presented as acute urinary retention, and 27.5% of the patients presented electively with symptoms of "prostatism". There were seven patients

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who presented as acute renal failure with features of congestive cardiac failure. Of these seven patients, five denied any symptoms of outflow tract obstruction. Nevertheless, basing on their serum creatinine, their renal failure improved following TURP. Of all the patients, 20.4% had serum creatinine higher than normal before operation.

At the time of surgery, 65 patients had an indwelling Foley's catheter while four patients were on suprapubic catheterization. The mean duration of catheter drainage prior to surgery was four months, ranging from one month to the longest period of three years.

There was a high incidence of preoperative morbidity. Hypertension headed the list with 29.6% of patients suffering from this problem. 16 patients had diabetes. Ten patients had chronic obstructive airways disease while 8.2% of patients had evidence of ischaemic heart disease. There were 17 patients who had more than one medical problem preoperatively.

**Anaesthesia used and fluids given:** Ninety percent of patients in our series had a spinal anaesthetic for their operation. One patient started off with a spinal anaesthetic but because he subsequently required a laparotomy due to an iatrogenic intraperitoneal perforation of the bladder from the catheter introducer, he was given a general anaesthetic as well. Interestingly, he was complaining of shoulder tip pain due to leakage of irrigating fluid and blood into the peritoneal cavity irritating the diaphragm, before he was given the general anaesthetic.

Of the patients, 17.7% required blood transfusion of only one unit each. All patients received intravenous crystalloids during the operation. The mean number of units given being 2.35 (ranging from one to five units), each unit being 500 ml.

**Findings and operative procedure:** The instrument used in all cases was the Storz Resectoscope with the size 24 sheath. In 15 patients, the urethral diameter was too small to accommodate the operating sheath comfortably and the Otis urethrotome was used to widen the urethra with a cut in the 12 o'clock position.

In 39.8% of patients, it was felt that the lateral lobes were the main cause of the obstruction. In 17.3%, it was felt that the median lobe was the main problem. In 27.5% of patients, both lateral and median lobes were obstructing the prostatic urethra. Four patients (4.1%) had a previous TURP performed elsewhere and had regrowth of nodules of prostatic tissue. In one of these patients, the main problem had been recurrent episodes of gross haematuria. Three patients (3.1%) had obviously infiltrating carcinoma of the prostate which was extending into the trigone and one of these patients had involvement of the right ureteric orifice and a non-functioning kidney. Eight patients (8.2%) had a small but occlusive prostate.

Fifteen patients had some other procedure done at the same time as TURP. Litholapaxy for bladder stones was carried out at the same time as TURP in nine patients. There was one patient who had a smaller bladder tumour found at the time of preliminary cystoscopy and this was resected simultaneously. Three patients had diverticulotomy done at the same time. Two patients required a dorsal slit before the resectoscope could be introduced.

**Post operative recovery:** Twenty three patients required the use of traction with a Salvaris swab tied around the catheter and pulled against the penis. The mean post operative period of bladder irrigation was 1.4 days, ranging from one to three days. The urinary catheter was removed after a mean of 3.4 days, ranging from two to 15 days. The patient who had the catheter left in-situ

for 15 days had developed post-operative bronchopneumonia and septicaemia and was ill for some time. Mean inpatient stay postoperatively was 4.8 days, ranging from three to 29 days. The longest staying patient was the same patient who developed postoperative bronchopneumonia and septicaemia.

**Results and follow-up:** Sixteen patients failed to return for follow-up. Of the remaining 82 patients who were followed-up, the mean follow-up period was 9.5 months (ranging from one to 22 months). Long term complications were seen in 17 patients and this is discussed later. The remaining patients had a satisfactory result with a good urinary flow and no incontinence.

There were no immediate or early deaths. During the follow-up period, three patients died at one, four and twenty months. Two of them were from carcinoma of the prostate. The third had Hanson's disease and died at home. The cause was not established.

**Complications:** During the operation, six patients had capsular perforations. However, there were no serious sequelae. In one patient, perforation of the bladder was caused by the catheter introducer during insertion of the catheter at the end of TURP. This intraperitoneal perforation was closed following laparotomy. His subsequent recovery was uneventful. Six patients developed clot retention in the evening and all patients required a bladder washout under a repeat spinal anaesthesia. Penile spasm was seen in five patients. One patient developed bronchopneumonia and septicaemia and was the patient with the longest inpatient stay of 29 days.

Late complications seen were as follows. Two patients developed secondary haemorrhage at 10 and 14 days postoperatively. The bleeding in both these patients resolved with conservative management consisting of bladder washouts and continuous irrigation for 24 hours. One patient with carcinoma of the prostate and renal failure developed vomiting and dehydration after being discharged and required readmission for rehydration and stabilization of his renal failure. Epididymo-orchitis was encountered in one patient. This responded to treatment with antibiotics. Eight patients had stress incontinence. In six of these patients, it was temporary, lasting up to three months. The remaining two patients lose occasional drops of urine on coughing or straining. One patient was incontinent. He went to India where repeat cystoscopy and resection of residual tissue was performed. Since then he claims to have better control of his micturition and is now able to hold his urine for an hour. Two patients had residual frequency and were really no better than their preoperative state. These two patients probably represented poor case selection. Their main problem being bladder dysynergia and urodynamic studies would probably have excluded them from the operation. One patient developed both meatal and bulbar strictures nine months after his TURP. The Otis urethrotome had not been used to widen his urethra. One patient has had a revision of his TURP due to carcinoma of his prostate.

**Histology and bacteriology:** At the time of writing, 78 of the results from histopathological examination were available. Of these 10.3% were found to be carcinoma of the prostate. The remaining 89.7% showed features of benign prostatic hyperplasia only. 83 urine cultures were available for this study. Of these, 21 were contaminated and 26 had no growth. In the remaining 36 specimens, pathogenic organisms were isolated. It was found that only 34.2% of the organisms were sensitive to Gentamicin. If *Pseudomonas* sp. is isolated, then Amikacin appears to be most effective. For routine pre and postoperative usage, Nalidixic acid appears to be the most effective antibiotic, 89.2% of all the pathogens being sensitive to it.

## Discussion

TURP is now well established as the procedure of choice for obstruction of the prostatic urethra. When compared to open surgery, its main advantages are its low mortality (one to two percent), short hospital stay, low rate of stricture formation, less morbidity, its relative painlessness and less blood loss. In this relatively small series, there has been no mortality in spite of the old age and the high incidence of preoperative morbidity of the patients. This series also bears out the short postoperative hospital stay of 4.8 days required. In most series,<sup>3</sup> the hospital stay is between five to seven days. It is shorter in our series probably because of the pressure for hospital beds. In spite of this, the postoperative complication rate has not increased. We are now removing the urinary catheter 48 hours after surgery, patients being discharged the next day and up till now, there has been no problems associated with this practice.

There was only one patient in our series who developed a postoperative stricture. This low incidence is probably because of the short follow-up period. However, the low incidence of meatal stenosis with use of the Otis urethrotome has been shown in other series.<sup>4</sup>

The majority (90%) of these patients were given a spinal anaesthetic. The practice here is to use 10 to 15 mgm of bupivacaine (two to three ml of 0.5% heavy marcaine) injected using a disposable 25G needle at L3\L4 or L4\L5 interspace.

This is adequate to produce good analgesia and good motor block up to level of about T8. The few cases who had general anaesthesia were those who objected to a spinal or who had spinal deformities rendering it difficult to perform. The advantages of spinal over general anaesthesia are as follows:—

- (1) Operating conditions including analgesia, muscle relaxation (of lower limbs for lithotomy) and moderate hypotension (rendered by the spinal) are excellent.
- (2) Overhydration and water intoxication which may occur as a result of absorption of irrigating fluid (water) can be detected early.
- (3) Surgical complications like inadvertent bladder perforation can be detected early.
- (4) The hypotension produced reduces blood loss.

The main disadvantage of spinal anaesthesia is the occurrence of post-spinal headache. From our experience,<sup>5</sup> we have minimised this with the use of 25G needles.

Of our patients, 17.7% required blood transfusion and the maximum number of units used per patient was only one unit. Fraser<sup>6</sup> found that only 17% of their patients required transfusion and concluded that their policy now is to only cross-match those patients whose pre-operative Hb is 11.5 gm/dl or if there is a significant medical risk or positive antibody screen. The implementation of this practice will contribute towards lightening the load on the blood transfusion services.

Thus, although this is a retrospective study, it confirms the advantages of TURP over the more traditional methods of open prostatic enucleation.

This advantage extends to other lower urinary tract problems as well. For example, bladder tumours can now be effectively resected transurethrally, avoiding complications like tumour

implantation following open operation and bladder stones can now be safely crushed under direct vision.

The disadvantages of transurethral surgery are that the instruments are relatively costly and training required so as to be safe and proficient in its use is difficult to acquire. However, once mastered, the advantages to be gained from its practice are many and as has been shown, patients have much to benefit from its use as opposed to open surgery.

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