



## EFFECTIVENESS AND SAFETY OF TRANSURETHRAL RESECTION OF THE PROSTATE IN ELDERLY MEN

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### ABSTRACT

**Objectives:** to assess the effectiveness and safety of transurethral resection of the prostate (TURP) in patients aged 80 years and above. **Patients and methods:** Retrospectively we reviewed the medical records of 213 patients aged 80 years and above who underwent TURP at our institution over a 10 year period. **Results:** patients age averaged 84 years, about 41% of patients underwent surgery due to bothersome lower urinary tract symptoms (LUTS), and 59% for retention, prostate size averaged 65ml, 92.5% of patients had one or more medical illnesses, 90.14% had benign post operative histopathology, 9.86% had prostate cancer, 9.4% of patients developed bleeding, 4.22% developed clot retention, 2.35% developed TUR syndrome, 2.82% developed urine retention, and 1.4% urinary incontinence. 75% of the patients were satisfied at 3 months. **Conclusions:** although it carries a slightly higher complication rate than in other age groups, TURP is both effective and safe in men over 80 years of age as most patients were satisfied with the outcome.

### INTRODUCTION

Benign prostatic hyperplasia (BPH) is a common disease in elderly men, it causes bothersome obstructive and irritative symptoms in affected males which are referred to as lower urinary tract symptoms (LUTS). Despite the advances in pharmacotherapy and the development in this field, a substantial number of men still need surgical intervention to alleviate their troublesome symptoms.<sup>[1][5]</sup>

Surgical treatment of BPH has indications that can be absolute or relative, and transurethral resection of the prostate is the most common surgery performed in men with BPH.<sup>[1]</sup>

As a result of the improved health care all over the world, the number of older men is growing, and as a result more and more older men are undergoing TURP nowadays than previously, mostly those with urine retention. These patients usually have co-morbid diseases that might affect their outcome or imply some risks that are not encountered in younger patients. Therefore this group of patients needs special attention by both the surgeon and the anesthetist when undergoing any surgery and TURP is no different.<sup>[2]</sup>

This study is aimed at identifying the effectiveness and safety of TURP in patients over 80 years of age.

### PATIENTS AND METHODS

Retrospectively we reviewed the medical records of 213 patients aged 80 years and above who underwent TURP in Prince Hussein Center of Urology and Organ Transplantation, in The Royal Medical Services, Jordan, over a 10 year period from 2010 to 2020 after obtaining approval from the Ethical Committee in our institution.

Data was collected from patients' files and analyzed, this included patient age, presentation and indication for surgery, prostate size, post operative complications; early and late, co-morbid diseases (diabetes mellitus, hypertension, ischemic heart disease and history of myocardial infarction, history of cerebro-vascular accident and other medical diseases when present).

Outcome of the surgery was assessed at discharge from hospital and up to 3 months post operatively, and patients' satisfaction was assessed both subjectively and objectively by flow rate and ultrasonography to assess post void residual urine.

### RESULTS

213 patients aged 80 years and above who underwent TURP in Prince Hussein Center of Urology and Organ Transplantation over a 10 year period from 2010 to 2020, were included in this study, all patients underwent conventional mono-polar TURP and 1.5% glycine as an irrigation solution, under spinal or general anesthesia.

The age of the patients ranged from 80 years to 91 years with an average of 84 years. Bothersome lower urinary tract symptoms with failure of medical treatment was the indication of surgery in 87 patients (40.85%), while 126 patients (59.15%) underwent TURP due to urine retention.

Prostate size assessed by preoperative ultrasonography done by specialist ultrasonographers in our institution ranged from 35 ml to 96 ml with an average of 65 ml.

16 patients were medically free, 87 patients had one medical illness, 94 patients had 2 medical illnesses and 16 patients had 3 medical illnesses preoperatively. These included diabetes mellitus, hypertension, ischemic heart disease with or without history of myocardial infarction, history of cerebrovascular accident.

Post operative histopathology showed benign prostatic hyperplasia in 192 patients (90.14%), and 21 patients had prostate adenocarcinoma (9.86%).

A total of 20 patients (9.39%) required blood transfusion post operatively, 18 patients were transfused with 2 units due to hematuria and PCV drop post operatively, but were hemodynamically stable and their hematuria subsided in 2 to 3 days post operatively and required no further intervention. 2 patients developed post operative hematuria that persisted despite continuous irrigation and they required embolization by interventional urologist to control their bleeding and were transfused by more than 2 units during their hospital stay.

Clot retention was observed in 9 patients (4.22%), all required cystoscopy in the first and second days post operatively and evacuation of clots and cauterization of the prostatic bed. With continuous irrigation and observation no further intervention was needed.

A total of 5 patients (2.35%) developed TUR syndrome. 6 patients (2.82%) developed urine retention post operatively and 3 patients (1.4%) developed urinary incontinence.

Trial of voiding was assessed in the second day post operatively, most patients were discharged the second day post operatively, with an average postoperative hospital stay of 2.3 days.

After discharge patients were followed up in the outpatient clinic at 1 month and at 3 months. 128 patients (60%) were satisfied 1 month post operatively in terms of satisfactory voiding according to the patient supported by acceptable flow rate examination and normal post void residual volumes by ultrasonography. Additional 32 patients (15%) were satisfied at 3 months both subjectively and objectively. So a total of 160 patients (75%) were satisfied with the results.

Unfortunately 1 pt who was doing well and satisfied with the outcome at 1 month, who underwent an uneventful surgery and was discharged without complications died about 6 weeks post surgery, due to acute myocardial infarction so this was not related to the surgery or anesthesia complications.

Some patients developed late complications in the follow up period, these included late bleeding and hematuria in 5 patients (2.35%), recurrent UTI in 7 patients (3.29%), urinary retention in 10 patients (4.69%) . 7 patients required redo TURP (3.29%).

## DISCUSSION

TURP is the surgical procedure of choice to treat men with BPH when indicated.<sup>[1]</sup> It is considered the procedure of choice for prostates sized 30 – 80 ml by the European Urological association.<sup>[3]</sup>

Usually older men with co-morbid diseases are the ones that require this kind of surgery after failure of medical treatment or for other indications mostly urine retention. This puts this group of patients at higher risk of complications whether related to the surgery itself or the anesthesia.<sup>[4]</sup>

Alpha adrenergic blockers and 5 alpha reductase inhibitors either as monotherapy or in combination are the drugs mainly used to treat symptomatic BPH.<sup>[5]</sup> And despite advances in pharmacotherapy more elderly men are still requiring surgical intervention where TURP is the procedure of choice.<sup>[1]</sup>

In this study the indication of TURP was failure of medical treatment for lower urinary tract symptoms in 40.85% of patients, and urinary retention in 59.15% of patients, results that are almost similar to previous studies from UK, but different than studies done previously in Germany and USA where around only 30% of patients underwent the surgery due to urine retention.<sup>[6][7]</sup>

Although more patients in this study underwent the surgery due to retention, the outcome of surgery was almost comparable to other studies with lower percentage of patient having urine retention prior to the surgery. As mentioned previously 160 patients (75%), were satisfied at 3 months post surgery proved by history and by flow rates and post voiding volumes assessed by ultrasound which is comparable to the 80% satisfaction rate in study done by RD Brierly and colleagues in UK.<sup>[6]</sup>

In spite of the fact that 197 patients out of the 213 involved in this study had one or more co-morbid disease, most of the complications were related to the surgical procedure and non medical. And there was no mortality post operatively, 1 patient died 6 weeks after surgery due to an acute myocardial infarction although his operation was uneventful and post operatively he developed no medical or surgical complications.

In general blood transfusion is required in 0.4 – 7.1 % of cases of TURP with life threatening bleeding being so rare.<sup>[8]</sup> In our study a transfusion rate of 9.4% was found which is slightly higher than the transfusion rate in TURP in general, indicating that bleeding as a complication is higher in older patients but this rate was comparable to a previous study done in Germany where a transfusion rate of 9% was observed in older patients, and it was less than a 13% transfusion rate found in elderly patients who underwent TURP in the UK.<sup>[6]</sup>

Regarding the other early and late complications in elderly patients in this study, they were slightly higher than the early and late complications of the TURP in general. In different studies from UK and China the incidence of TUR syndrome ranged from 3-20%, in this study it was less at about 2.35%.

53 patients (24.88%) in this study were not satisfied with the outcome, and were unable to void satisfactorily and continued to have bothersome lower urinary tract symptoms, this was not related to the number of co-morbid illnesses they have, neither it was related to their preoperative prostate size, but the patients who presented with urine retention pre-operatively had a higher percentage of dissatisfaction post operatively than those who presented with other symptoms but not urine retention. 10 patients of those showed bladder atony in urodynamics done post operatively which might be the cause of their symptoms not the BPH.

When analyzing data related to these patients who were dissatisfied with the results, we found that this was not related to their prostate size, or the medical illnesses they have, but 38 of those had urine retention as their presentation and 15 had bothersome LUTS as their initial presentation. As mentioned previously a total of 126 patients presented with urine retention so around 30% of these were dissatisfied with their surgery. 87 patients presented with bothersome LUTS so about 17.25% of these pt were dissatisfied with their surgery at the end.

## CONCLUSIONS

The complication rate of TURP in elderly patients is slightly higher than patients of other age groups, about 75% of patients were satisfied after 3 months of surgery. There was no mortality, and about 25% of patients were dissatisfied. This was not related to the co-morbid diseases they have or to the preoperative prostate size, but was slightly higher in patients who presented with urine retention than in those whose initial presentation was bothersome LUTS not responding to medical treatment. So TURP in elderly patients aged 80 and above is both safe and effective although the complication rate was slightly higher.

## REFERENCES

1. Nickel JC, Me'ndez-Probst CE, Whelan TF, et al. The Canadian Prostate Health Council and the CUA Guidelines Committee 2010 Update: Guidelines for

the management of benign prostate hyperplasia. *Can Uro Assoc J*, 2010; 4: 310-6.

2. De La Rosette J, Alivizatos G, Madersbacher S, et al. Guidelines of Benign Prostatic Hyperplasia. European Association of Urology, 2006.
3. Thorpe AC, Clearly R, Coles J, Vernon S, Reynolds J, Neal DE. Deaths and complications following prostatectomy in 1400 men in the northern region of England, Northern Regional Prostate Audit Group. *Brj urol*, 1994; 559-65.
4. Medical treatment of Benign Prostatic Hyperplasia. Herbert Lepor, MD. *Reviews in urology. Rev Urol*, 2011; 13(1): 20-33.
5. J. Rassweiler, D.Teber, R.Kuntz, R.Hofmann Complications of transurethral resection of prostate(TURP) – incidence, management and prevention *Eurl Urol*, 2006; 50: 969-980.
6. RD Brierly, AH Mostafid, D Kontothanassis, PJ Thomas, MS Fletcher, NW Harrison, Is transurethral resection of the prostate safe and effective in the over 80-year-old? *Ann R Coll Surg Engl*, 2001; 83: 50-53.
7. Matani Y, Mottrie AM, Stockle M, Voges GE, Fichtner J, Hohenfeller R. Transurethral prostatectomy: a long-term follow-up study of 166 patients over 80 years of age. *Eur Urol*, 1996; 30: 414-7.
8. Cheng J, Nicholson H, Chan L, Lalak A. Western Health Melbourne, Australia. Concord Repatriation General Hospital, Sydney, Australia. Transurethral resection of the prostate (TURP) in patients over 90 years: is a surgical approach safe and efficacious in the very elderly? 318.