

PROSTATIC HYPERPLASIA; TRANSURETHRAL ELECTRO VAPORIZATION: OUR EXPERIENCE .

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ABSTRACT... Aims and objects. To assess the efficacy, safety and complication of TUEVP on the basis of subjective and objective parameters and to establish an alternative procedure in our setup. **Material and Methods:** The study was conducted at Urology Department Services Hospital Lahore over a period of four years (1996-2000). A total 50 patients suffering from Bladder outflow symptoms due to BPH were selected for the study. The TUEVP done by standard technique. **Results:** The mean age was 64.16 with standard deviation of 7.86 years. The mean operating time in TUEVP was 20.6. Mean volume of irrigating fluid during the procedure was 8.28. Few patients require blood transfusion could be shorter resection time and less bleeding during TUEVP. Mean preoperative serum sodium was 138.8 mEq/l. After TUEVP mean changes in serum sodium was 1.1 mEq/l. Post operative mean volume of irrigant used was 11.12 liters. In TUEVP no patients developed significant haemorrhage during first 24 hours. Mean estimated cost of operation was Rs.4160/-. Early complication rate like clot retention occurs in 4% and fever occurs (4%) while haemorrhage, TURP syndrome, retention of urine and DVT not reported. Late post operative complication included secondary infection (4%), Epididymoorchitis (4%), U.T.I in (12%), Retrograde ejaculation (24%) and stricture urethra (4%) patients. The mean symptomatic improvement in IPSS Score was 12.76 after two weeks, 8.72 after three months. Peak flow rate increased 13.4 ml/s after two weeks and 14.44 ml/s after three months. **Conclusion:** TUEVP is the effective and safe procedure with fewer complications and better recovery in our setup but required clinical trials to different urological centers to establish its long term efficacy and safety.

Key words: Transurethral Electro vaporization, Benign prostatic hyperplasia complications.

INTRODUCTION

Benign prostatic hyperplasia is probably the most common condition to afflict the aging men. According to the Sir Benjamin Brodie the hair becomes grey and scanty the prostate gland usually increases in size¹. Transurethral electro vaporization which is a new method of endoscopic surgery with simple modification of known electro-surgical principles.

The modification is specially designed. Circon ACMI grooved roller electrode (Vaprotrode) utilized

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transurethrally to vaporize, desiccate and coagulate prostatic tissue^{2,3}. This new, minimally invasive technique being used by urologists for surgical ablation of prostate tissues. It is modification of transurethral resection of prostate and involves a sufficiently high electrosurgical current applied through a roll ball electrode to achieve vaporization of prostate tissues^{4,5}. Advantage includes familiarly with transurethral route, lack of need of high cost laser equipment and fibers, excellent intra-operative haemostasis, lack of bleeding, or fluid absorption and ability to achieve a TUR like prostate defect at the end of procedure. Transurethral electro vaporization is as effective as standard TURP in the treatment of moderate sized BPH. It also has reduced duration of catheterization, hospitalization, and easier training for the surgeon^{6,7}.

MATERIAL AND METHODS

The study was conducted at Urology Department Services Hospital Lahore over a period of four year(1996-2000). A total 50 patients suffering from Bladder outflow symptoms due to BPH were selected for the study. Patients having Bleeding disorder, diabetes mellitus, cardiac failure, neurological disorders, renal function impairment, liver disorder, vesical calculi, prostate carcinoma and prostate larger than 50 gm were excluded from the study. A detailed history was taken and thorough examination performed. All patients investigated fully like Urine, Blood CP, ESR, Serum Electrolyte, Serum creatinine, Blood Sugar, Clotting Time, Bleeding Time, Ultrasonography, Plain X Ray KUB, ECG and pre and post operative Serum sodium were carried out. Spinal Anesthesia was used. Prophylactic antibiotic was administered at the time of induction. The TUEVP initially done at the bladder neck at 6 O' clock. Subsequently all tissue between 5 O' clock and 7 O' clock at the bladder neck was vaporized. Median lobe if present were vaporized in a similar way by creating successive furrows starting proximally and ending at the prostatic fossa. The bladder neck was vaporized between 5 O' clock and 7 O' clock position, and passes were repeated until circular bladder fibers were visible. The prostate distal to bladder neck was vaporized next. Repeated furrows were made from 5 o'clock to 1 o'clock and 7 o'clock to 11 o'clock to achieve complete ablation

of the entire adenoma of both lobes. Apical tissue can be vaporized last by ante grade and retrograde movement of electrode. 5% Dextrose water was used for irrigation purpose. Pre-operatively, pulse and BP record was made after every 15 minutes. 22 Fr three-way Foley catheter was inserted after surgery. 0.9% saline was used for postoperative bladder irrigation and catheter removed after 72 hours.

RESULTS

The mean age was 64.16 with standard deviation of 7.86 years. The mean operating time in TUEVP was 20.6minutes. Mean volume of irrigating fluid during the procedure was 8.28.

Few patients required blood transfusion. Mean preoperative serum sodium was 138.8 mEq/l. After TUEVP mean changes in serum sodium was 1.1 mEq/l. Post operative mean volume of irrigant used was 11.12 liters. In TUEVP no patients developed significant haemorrhage during first 24 hours. Mean estimated cost of operation was Rs.4160/. (Table-I).

Table-I. Per & Post Operative Parameters of TUEVP	
Per-Operative Parameters of TUEVP	
Variable	Mean \pm SD
1. Operative Time	20.6 \pm 9.5
2. Volume of Irrigant (Liters)	8.28 \pm 3.88
3. Pre-operative Serum Sodium (mEq/L)	138.8 \pm 3.48
Post- Operative Parameters of TUEVP	
Variables	Mean \pm SD
1. Volume of Irrigant (Liters)	11.12 \pm 5.36
2. Duration of Irrigation (Hours)	9.48 \pm 2.84
3. Cost of Operation (PKR)	4160 \pm 732
4. Hospital Stay (Days)	4.4 \pm 0.91

Early complication rate like clot retention occurred (4%) and fever (4%) while haemorrhage, TURP syndrome , retention of urine and DVT was not reported. Late post

operative complication included secondary infection (4%), Epididymoorchitis (4%), U.T.I (12%), Retrograde ejaculation (24%) and stricture urethra (4%). The mean symptomatic improvement in IPSS Score 12.76 after two weeks and, 8.72 after three months. (Fig No.1). Peak flow rate increased 13.4 ml/s after two weeks and 14.44 ml/s after three months. (Fig No.2).

Fig-1. Mean symptom IPSS score improvement after TUEVP

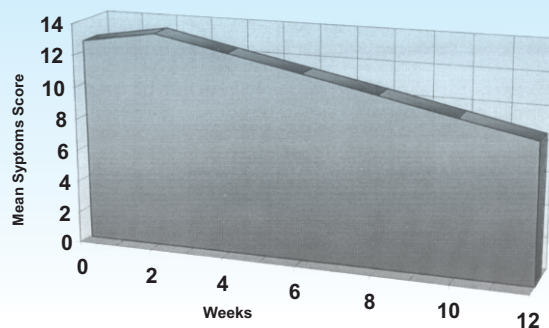
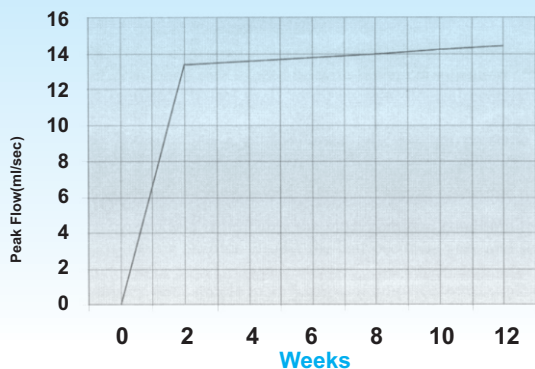


Fig-2. Mean peak flow rate increased after TUEVP



DISCUSSION

TUEVP is a new endoscopic mode of management for benign prostatic hyperplasia. This modality has been the focus of interest for the last five years. The new electrode is some what similar to roller ball electrode but differs in having grooves on its surface and is gold plated^{1,2}. The mean age was 64.16 with standard deviation of 7.86 years which is comparable to other studies^{1,3}. The mean operating time in TUEVP was 20.6 minutes which was due to less bleeding during TUEVP and so minimum time

was consumed on coagulation. Miles conducted study on TUEVP and found mean operating time was 25 minutes which is comparable to our study⁸. Mean volume of irrigating fluid during the procedure was 8.28 which was comparable to other studies^{2,3}. Few patients required blood transfusion which is comparable to other studies^{4,9}. During resection absorption of excessive amounts of irrigating fluids in the circulation through open venous channels or extravasated fluid may lead to hypervolemia and dilutional hyponatraemia with clinical features of TURP Syndrome. In our study mean preoperative serum sodium was 138.8 mEq/l. After TUEVP mean changes in serum sodium was 1.1 mEq/l which are comparable to Narayan and Narysn which reported minimal changes in electrolyte after TUEVP^{5,6}. Post operative mean volume of irrigant used was 8.28 liters and mean period of post operative irrigation was 9.84 hours which is due to less post operative bleeding and they required bladder irrigation for shorter duration which is comparable to Stewart⁷ and Zhongua¹⁰. In TUEVP no patients developed significant haemorrhage during first 24 hours. Benjamin reported one case of early post operative bleeding after TUEVP which is comparable to our study¹. Cost is major factor as the patients coming to teaching hospitals belongs to the poor socioeconomics group. Mean estimated cost of operation was Rs.4160/ which is due to reduced volume of irrigating fluid and shorter hospital stay. Early complication rate like clot retention occurs in 4% and fever occurred in 4% while haemorrhage, TURP syndrome, retention of urine and DVT was not seen. Late post operative complications included secondary infection (4%), Epididymoorchitis (4%), U.T.I (12%), Retrograde ejaculation (24%) and stricture urethra (4%) comparable to Kaplan and Ekengran studies^{2,9}. The mean symptomatic improvement in IPSS Score was 12.76 after two weeks, 8.72 after three month which is comparable to Hahn³ and Miles⁸. Peak flow rate increased 13.4 ml/s after two weeks and 14.44 ml/s after three month which is also comparable to studies of Kaplan⁹, Hammadeh⁴ and Gnanaraj¹¹.

CONCLUSION

TUEVP is the effective and safe procedure with fewer complication and better recovery in our setup but

required clinical trials at different urological centers to established its long term efficacy and safety.

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The only limitations you will ever have are the ones you put on yourself.

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