Monopolar Versus Bipolar Transurethral Enucleation of the Prostate for Large volume Benign Prostatic Hyperplasia

Thesis

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Presented by

Haitham Mohamed Ali Mohameden

M.B.B.Ch., M.Sc.

Supervised by

Prof. Dr. Mohamed Sherif Mohamed Adel Mourad

Professor of Urology

Faculty of Medicine – Ain Shams University

Dr. Ahmed Farouk Mahmoud

Lecturer of Urology

Faculty of Medicine – Ain Shams University

Dr. Waleed El Sayed Mousa

Lecturer of Urology

Faculty of Medicine – Ain Shams University

Faculty of Medicine

Ain Shams University

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Haitham Mohamed

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List of Abbreviations

Abb.	Full term
AUR	Acute Urinary Retention
BOO	Bladder Outlet Obstruction
BPE	Benign Prostatic Enlargement
BPH	Benign Prostatic Hyperplasia
BPO	Benign Prostatic Obstruction
B-TUEP	Bipolar Transurethral Enucleation of the Prostate
DiLEP	Diode Laser Enucleation of the Prostate.
DRE	Digital rectal examination
EAU	European Association of Urology
HoLEP	Holmium laser enucleation of the prostate
IPSS	International Prostate Symptom Score
LUTS	Lower urinary tract symptoms
mTUEP	Monopolar resectoscope Enucleation of the Prostate
M-TUEP	Monopolar Transurethral Enucleation of the Prostate
mTUEPA	Monopolar Transurethral Enucleation of Prostatic Adenoma
OP	Open Prostatecomy
PKEP	PlasmaKinetic Enucleation of the Prostate.
PKTM	PlasmaKinetic tissue management
PMR	Post Micturition Residual
PSA	Prostate specific antigen
PVRU	Post Voiding Residual Urine
Q ave	Average Flow rate
Q max	Maximum Flow rate
QoL	Quality of Life
RF	Radiofrequency
ThuLEP	Thulium Laser Enucleation of the Prostate.

List of Abbreviations Cont...

Abb.	Full term
TUEB	Transurethral Enucleation with Bipolar system
TUERP	Transurethral Enucleation and Resection of the Prostate
TURP	Transurethral Resection of the Prostate
U/S	Ultrasonography
UTI	Urinary tract infection

INTRODUCTION

Benign prostatic hyperplasia (BPH) is one of the most common urinary disorders in elderly males, affects about 210 million males at 2010 (6% of the population) ***(Vos et al., 2012)***. The prevalence rate is 2.7% for men aged 45–49, it increases to 24% by the age of 80 years ***(Verhamme et al., 2002).***The symptoms of BPH include impaired physiological and functional well-being, which interferes with daily living ***(Önder et al., 2014)***.

BPH may cause physical compression on the urethra and result in anatomic bladder outlet obstruction (BOO) through two distinct mechanisms: First, an increase in prostate volume, termed the static component; second, an increase in stromal smooth muscle tone, termed the dynamic component. BOO, in turn, may present clinically as lower urinary tract symptoms (LUTS), urinary tract infections, acute urinary retention (AUR), renal failure, hematuria, and bladder calculi ***(Stroup et al., 2012).***

Despite the constant technological advances achieved during the past decades, large size BPH pathology continues to raise questions concerning the most appropriate therapeutic approach. Interestingly enough, the classical open prostatectomy still represents the standard option for this type of cases despite the substantial perioperative morbidity ***(Ahyai SA et al., 2010).***

For decades, transurethral resection of the prostate (TURP) has been the gold standard for the surgical treatment of symptomatic BPH ***(Ahyai et al., 2010)***. A recent meta-analysis showed that, in terms of outcomes, TURP is still at least equivalent to the latest BPH treatment techniques ***(Cornu et al., 2015)***. However, the procedure is not perfect, with complications such as transfusion (0.4%), clot retention (2%), urinary tract infection (1.7%), urinary retention (3%), late iatrogenic stress incontinence (<0.5%), urethral strictures (2.2%-9.8%), bladder neck contractures (0.3%-9.2%), and a retreatment rate of 3%-14.5% at 5 years ***(Rassweiler et al., 2017)***. Apart from this, the procedure is no longer representative of the gold standard treatment for prostatic adenomas measuring >80 g ***(Seki et al., 2007)***. In cases involving markedly enlarged prostates (>80 g), open prostatectomy (OP) is still considered to be the most effective and durable procedure available ***(Oelke et al., 2013; Suer et al., 2008)***. However, OP is undoubtedly the most invasive approach and is associated with substantial intraoperative morbidity, which extends the catheterization time and length of hospital stay ***(Suer et al., 2008; Serretta et al., 2002)*.**

According to recent reports, holmium laser enucleation of the prostate(HoLEP) might offer some advantages over TURP in terms of decreased transfusion rate, catheterization time, and hospital stay ***(Li S et al., 2014)***. However, HoLEP

procedure requires longer operative times and higher costs ***(Fayad AS et al., 2011)***.

Bipolar transurethral enucleation of the prostate (B-TUEP or TUEB) has been published as a further alternative to TURP, consisting in the enucleation of the adenoma by conventional bipolar energy and dedicated loops ***(Zhu L et al., 2013)***.

In the present study we present our technique of monopolar enucleation, which combines the use of standard monopolar energy with the advantages of cold mechanical enucleation.

AIM OF THE WORK

To evaluate the efficacy and safety of monopolar versus bipolar transurethral enucleation of the prostate for large volume benign prostatic hyperplasia.