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Daycase Transurethral Resection-Vaporization of Prostate (TURVP) in the Treatment of Benign Prostatic Hyperplasia (BPH)

During the last 50 years, transurethral resection of prostate (TURP) has become the primary method to relieve bladder outlet obstruction for those with BPH. TURP has been reported to represent 25% of urologist workload. With the advancement in technology and technique, TURP has a low mortality rate of 0.1% but it still associates with significant morbidity rate of 18% in terms of bleeding, TUR syndrome, electrolyte disturbance due to excessive intraoperative irrigation fluid absorption, infection, urinary incontinence and erectile dysfunction. While bleeding, TUR syndrome and electrolyte disturbance are most worrying problems in the perioperative period, patients will be closely monitored and put on bladder irrigation. The mean postoperative catheterization time is 23.1 to 67.4 hours and the mean hospital stay is 2.5 to 7.9 days.

Various minimally invasive therapy, e.g. laser, vaporization, microwave, TUNA, HIFU, stenting, balloon dilatation, alcohol injection etc., are gaining popularity, but their efficacy, durability and cost-effectiveness in treating BPH are showed to be inferior to the convention TURP by various randomized controlled trials. One can say that TURP is an ' ancient' technology since its introduction by Guyon in 1901 but still is the most effective method in treating BPH even in this biotechnology era.

Since 2000, we combine TURP and vaporization of prostate in treating BPH. The procedure uses one of the novel thick resection loops coupled with a higher electrocutting energy. The thick loop makes better use of electrocutting energy by enhancing contact with the prostatic tissue to achieve simultaneous resection, vaporization and coagulation. The desiccation zone formed by vaporizing prostatic tissue will coagulate any bleeding vessels and act as a barrier to minimizes intraoperative fluid absorption and electrolyte disturbances.

A prospective trial of ' Daycase, catheterless, transurethral resection-vaporization of prostate (TURVP) in the treatment of BPH' was performed from January 2000 to December 2002 in Tung Wah Hospital. Patients with symptomatic BPH requiring operation and suitable for day surgery criteria of ASA I or II, adequate home environment and family support were recruited. Patients were instructed to admit to Day Surgery Centre at TWH in the early morning and TURVP was

performed under general anesthesia. Gold-wing resection loop (Wolf, Kittlinger, Germany) coupled with Conmed Aspen Excalibur-Plus electrosurgical unit (Conmed, Aspenlab, Inglewood, California) at 165 W. pure cutting current and 50 W. coagulation current setting were employed for the procedure. The procedure was performed in the similar manner as the convention TURP but in a slower passage of resection loop in order to allow adequate time for the formation of desiccation zone. Postoperatively, patients were put on bladder irrigation for 2 hours and allowed to void afterward. After patients can void spontaneously with no retention, they were discharged.

During this 36 months' period, 155 consecutive patients with mean age of 67.43 (range 53 to 79) were recruited. The mean resection time was 35.35 min. The mean weight of resected specimen was 16.92 gm. All objective and subjective parameters demonstrated statistically significant improvement. There were marginally changed with no statistical significance. Nine (5.8%) of patients were readmitted due to (2) vomiting, (2) bleeding and (5) retention of urine. Complications included 4 patients with secondary haemorrhage, 3 patients with urethral stricture and 3 patients with urinary tract infection. The results of the present prospective study demonstrated that TURVP is a safe and effective procedure in treating BPH, even in a catheterless, day surgery setting with minimal complications. With the TURVP, minimal blood loss, electrolyte disturbance and haemodilution can be achieved. Probably, it should be the trend for future transurethral prostatectomy development.

In the Division of Urology, QMH and TWH, TURVP has replaced TURP in the treatment of BPH. All the urologists are satisfied with the current advancement and willing to change to the new method. Urology trainees are benefit to the new technique as the learning curve for TURVP vs TURP is substantially shortened as they can see clearly during the procedure and control the condition in an upper hand manner.