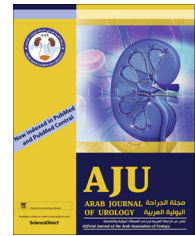




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ORIGINAL ARTICLE

Day care bipolar transurethral resection vs photoselective vaporisation under sedoanalgesia: A prospective, randomised study of the management of benign prostatic hyperplasia

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KEYWORDS

Photoselective vaporisation of prostate (PVP);
Bipolar TURP;
Day care bTURP;
Day care PVP;
Sedoanalgesia

Abstract Objective: To conduct a prospective randomised study comparing the safety, effectiveness and treatment outcomes in patients undergoing bipolar transurethral resection of the prostate (bTURP) and photoselective vaporisation of the prostate (PVP) under sedoanalgesia, as sedoanalgesia is a safe and effective technique suitable for minimally invasive endourological procedures and although studies have confirmed that both TURP and PVP are feasible under sedoanalgesia there are none comparing the two.

Patients and methods: Between November 2014 and April 2016, all patients satisfying the eligibility criteria underwent either bTURP or PVP under sedoanalgesia

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ABBREVIATIONS

bTURP, bipolar TURP;
 PVP, photoselective vaporisation of the prostate;
 PVR, post-void residual urine volume;
 Q_{\max} , maximum urinary flow rate;
 VAS, visual analogue scale

after randomisation. The groups were compared for functional outcomes, visual analogue scale (VAS) pain scores (range 0–10), perioperative variables and complications, with a follow-up of 3 months.

Results: In all, 42 and 36 patients underwent bTURP and PVP under sedoanalgesia, respectively. The mean VAS pain score was <2 at any time during the procedure, with no conversions to general anaesthesia. PVP patients had a shorter operating time [mean (SD) 55.64 (12.8) vs 61.79 (14.2) min, $P = 0.035$], shorter duration of hospitalisation [mean (SD) 14.58 (2.81) vs 19.21 (2.82) h, $P < 0.001$] and a higher dysuria rate when compared to bTURP patients. However, the catheterisation time was similar and both intraoperative and postoperative complications were minimal and comparable. Improvements in the International Prostate Symptom Score, quality of life, prostate volume, maximum urinary flow rate and post-void residual urine volume at 3 months were similar in both groups. None of our patients required re-admission or re-operation.

Conclusion: Both PVP and bTURP can be carried out safely under sedoanalgesia with excellent treatment outcomes.

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Introduction

Day care procedures are becoming increasingly popular due to the benefits of a short hospital stay, less morbidity, early ambulation, and increased cost-effectiveness [1]. Such procedures when performed under sedoanalgesia allow patients to tolerate painful procedures, whilst maintaining adequate cardiorespiratory function and consciousness [2]. Sedoanalgesia is safe, effective, less time consuming, and is particularly suitable for minimally invasive endourological procedures [1,2].

Many patients who undergo surgery for BPH have associated comorbidities and are deemed unfit for general anaesthesia. In such a scenario, sedoanalgesia seems to be a promising option, enabling faster recovery and shorter hospitalisation [3]. Data accumulated over the years have reported favourable results [4,5] for both PVP and TURP under sedoanalgesia, with excellent intraoperative safety and expedient postoperative recovery. However, the studies are few and require further validation in terms of the safety of the techniques. Therefore, we conducted a prospective randomised study to compare the safety, effectiveness and treatment outcomes in patients undergoing bipolar TURP (bTURP) and photoselective vaporisation of the prostate (PVP) for BPH, under sedoanalgesia, in carefully selected patients.

Patients and methods

The study protocol and all procedures were approved by the Institutional Ethics Committee. Between November 2014 and April 2016, consecutive patients attending the Urology Out-patient Department with LUTS secondary to benign prostatic enlargement who were planned for

surgery according to the AUA International BPH Guidelines were included in this prospective, randomised study. The inclusion criteria were: age >50 years, prostate volume ranging between 20 and 50 mL, IPSS of >7, maximum urinary flow rate (Q_{\max}) of <15 mL/s, serum PSA level of <4 ng/mL, histologically benign enlargement of the prostate when the serum PSA level was >4 ng/mL, and failure of medical management. The exclusion criteria were: history of prostate, bladder or urethral surgery; neurogenic bladder dysfunction; patients in whom anticoagulants could not be safely discontinued before surgery; active UTI; presence of bladder calculi; urethral stricture disease; and biopsy confirmed carcinoma of the prostate.

Initial evaluation included a detailed clinical history including the completion of the IPSS; physical examination including DRE and focused neurological examination; complete haemogram; serum creatinine; serum electrolytes; urine analysis; serum PSA measurement; ultrasonography of the kidney, ureter, and bladder region to assess the prostate size, the upper tract, back pressure changes in the bladder, post-void residual urine volume (PVR) and to look for the presence of calculi; and Q_{\max} measurement on uroflowmetry. Eligible patients were randomised to one of the two groups. Group A, underwent bTURP; and Group B, underwent PVP with a potassium titanyl phosphate (KTP) 120W (high performance system) laser. Randomisation was done in a 1:1 ratio using a sealed envelope sequence.

A pre-anaesthetic evaluation was conducted before admission/procedure in all patients. All patients were admitted to the hospital on the day of the proposed surgery after fasting for 4–6 h. Patients were advised to take two tablets of laxative and an anxiolytic the night preceding surgery, and to take a scrub bath in the morning

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