Abstract Objective: The aim of this study was to evaluate the safety, feasibility, and effectiveness of bipolar transurethral plasmakinetic enucleation of the prostate (PKEP). Patients and methods: Between January 2010 and October 2013, 245 patients with lower urinary tract symptoms due to benign prostatic hyperplasia underwent transurethral enucleation of prostate using bipolar plasma vaporization energy. Patients were evaluated preoperatively by full detailed history, routine preoperative investigation digital rectal examination, serum prostate-specific antigen, abdominal and transrectal ultrasonography, and maximum flow rates (Qmax). Results: Patients’ ages ranged from 50 to 81 (65.5–6) years with transrectal ultrasound-measured prostate volume of 97.1–36.7mL resulting in an operating time of 76.9–27.9 minutes, and postoperative irrigation and catheterization times were 3.5–3.2 and 12.7–6.1 hours, respectively. No significant complication occurred intra- or postoperatively. Qmax increased from 7.1–3.2mL/second preoperative to 18.4–4.2mL/second ( p<0.001). The International Prostate Symptom Score decreased from 25–6 to 7.9–2.4 (p<0.01). Conclusion: This study confirmed that PKEP is a safe, easy to learn, and durable technique suitable for any prostate sizes. Keywords: benign prostatic hyperplasia, M-TURP, PKEP