Long-Term Results of Photoselective Vaporization of the Prostate (PVP): The Largest Evaluation in the Czech Republic

Introduction and Objective: Photoselective vaporization of the prostate is one of the minimally invasive methods of treatment of benign prostatic hyperplasia. The aim of our study was to evaluate the results of photoselective vaporization of the prostate at the Urological Dept. in Plzen, both intraoperative, immediate postoperative and in the long term run.
Materials and Methods: A total of 421 patients was evaluated in the period from January 2008 to June 2011. We followed the input parameters and postoperative short-term postoperative results and the patients were followed and evaluated the third, sixth and twelfth month after the procedure. The observed variables were amount of energy applied, the operating time, maximum flow rate, IPSS score, changes in PSA levels and complications.
Results: The mean age was 69.6 years. The mean prostate size 55.5 (35-110 g) grams. Initial PSA was 3.2 (0.29 to 6.7) ng/ml. The mean maximum flow rate (Qmax) was 8.2 (3.6 to12.2) ml/s IPSS score 19, Quality of life was assessed as 4. With regard to perioperative data, average energy applied in to the prostate tissue was 153.6 (98-310) kJ, the average operating time was 48.3 (28-87) min. Time of catherization after the procedure was exactly 24 hours. The total length of hospital stay was 3.9 days. Complications in connection with the PVP procedure occurred in 23.7% of patients (within one year after PVP). The most common were dysuria in 41 patients as well as urinary retention, who in 9 patients required transurethral resection of the prostate during same hospital stay. Next 8 patients underwent TURP within one year after PVP. Increased hematuria occurred in 8 patients, but none of them was the need to take blood transfusions. One patient died within 48 hours due to brain stroke. In two patients there was was the need insert ureteral stents for urethral mouth edema with subsequent anuria. Eight patients experienced with transient stress incontinence. One patient had urosepsis and in 11 it was necessary to treat urinary tract infections. Three patients reported the emergence of erectile dysfunction. In 6 patients, there developed stenosis of the urethra and two had bladder neck sclerosis. The mean maximum flow rate after surgery was 14.9 ml/s. Long-term monitoring at 3, 6 and 12 months showed the following results: PSA showed the following values 2.25 ng/ml, respectively 2.27 ng/ml respectively 2.15 ng/ml. Average values postvoiding residues were 15 ml respectively, 22 ml respectively 18 ml after one year. Average values of maximum flow was 18.1 ml/sec resp. 18 ml/sec resp. 17.5 ml/s. The value of IPSS has undergone the following changes. Three months after surgery decreased from 19 to 8 points. The sixth month mean IPSS was 9.1 and after one year it reached 8.5 points. Quality of life values were 2.7 respectively, 2.75 respectively 2.55. Long-term postoperative complications (at least one year after surgery) were reported in 60 patients. There were 38 patients who had urgency. At 6 we observed recurring urinary retention. At 4 was the need of re-treatment of bacterial infections. Two patients reported urge incontinence. Two patients have been reported recently with stenosis of the urethra. Recurrent hematuria affected 8 patients.
Conclusion: Photoselective vaporization belongs still among the modern methods of miniinvasive treatment of benign prostate hyperplasia. Based on our results we can state that PVP is a very good treatment with excellent results and an acceptable complication rate, which in the long term does not exceed 15%. The most common complications, as patients are shown, t are feelings of urgency, which is considered as the biggest negative aspect of all methods based on application of thermal energy. Supported by grant MSM 0021620819