Transurethral Prostate Resection Monopolar Versus Plasmakinetics Gyrus Versus Bipolar TURIS Surgmaster Scalpel: Single Centre Comparison Study

Introduction and Objective: Transurethral resection of the prostate (TURP) is the current optimal therapy for the relief of bladder outflow obstruction, with subjective and objective success rate of 85 to 90%. The aim of this study is to evaluate efficacy and safety of Bipolar TURIS Scalpels versus Plasmakinetic energy versus standard monopolar transurethral resection of the prostate.
Materials and Methods: A total of 320 consecutive patients, mean age 65.5 (48-83aa), with LUTS from BOO to BPE, no responders to drug therapies, were enrolled in our study to undergo surgical endoscopic treatment (TURP). The first 160 patients were enrolled before June 2010, and are part of a historical reference group; the other 160 are part of our new experience with Bipolar Transurethral resection in saline (TURIS) using Surgmaster Scalpel from June 2010 until June 2011. All patients underwent standard TURP by a single surgeon: of those, 80 with monopolar, 80 with Gyrus system and 160 with Bipolar TURIS with Surgmaster scalpel. The preoperative investigation protocol included digital rectal examination, Prostatic specific antigen (PSA), International Prostate symptom Score (IPSS), quality of life (QOL), urinalysis with urine culture, uroflowmetry with post-voiding residual urinary volume (PVR) and transrectal ultrasonography assessing prostate volume. Before surgery we performed, in all patients, Hgb dosage, and we repeated it the day after surgery. Catheterization and hospitalization time and eventual transfusions were also registered. Post-operative evaluation included IPSS, IEFF-5, QOL, Uroflowmetry with assessment of PVR, PSA dosage, Hgb measurements; all of them repeated after one month and each 3 months for one year after surgery. After 3 months all the patients underwent TRUs.
Results: We observed, in all the patients, a statistically significant increment compared with Qmax and Qave baseline, IPSS and QOL, but not significant differences between energy sources used. The mean post-surgical hospitalization and catheterization time were similar, 48 and 24 hours respectively. The results (Qmax, Qave, RPM, IPSS, IEFF-5, TRUS) significantly improved as functional outcome from the third month onward, remaining stable in the follow-up. In our experience, no death during peri or post-operative follow-up (meaning the 48 hours post TURP). We registered no statistically significant differences in blood loss for the 3 groups: 9 patients underwent post-surgical hemotransfusions. We needed to perform a “second look” in 11 patients (3.4%), without statistically differences in the three groups, 7 of them because of bladder neck contracture and 4 because of urethral stenosis.
Conclusions: Transurethral resection of the prostate (TURP) for Bladder Outlet Obstruction (BOO) caused by Benign Prostate Hypertrophy (BPE) is a technique, which showed, in our long time experience, no statistical differences in efficacy and safety aside from which energy we used.