Bipolar vaporization of the prostate may cause higher complication rates compared to bipolar loop resection: a randomized prospective trial.

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Transurethral resection of the prostate (TURP) by resection loop or vaporization button is becoming a standard of care due to its better safety profile (less bleeding and less incidence of TUR syndrome). However, there are published data showing bipolar
Vaporization may be associated with increased late complications. In this study, we compared results of bipolar TURP using the resection loop versus vaporization button for treatment of benign prostatic hyperplasia (BPH) to determine the relative safety profile.

Between January 2013 and March 2014, 89 patients with BPH were randomized to surgical intervention either by Olympus (Gyrus) Bipolar loop TURP or Olympus (Gyrus) Bipolar button vaporization. Inclusion criteria were; BPH with Q-max < 10 ml/s, IPSS > 18 and prostate volume > 40 g. All patients were evaluated preoperatively and at 1, 3 and 9 months. Evaluation included IPSS, uroflowmetry, prostate volume by ultrasound. Clavien complications and operative time were recorded. Statistical analysis was done using Statistical Package of Social Science (SPSS) version 17 software.

44 patients were included in bipolar TURP and 45 patients in vaporization arm. Preoperative mean prostate volume (59 g versus 58 g, p = 0.52) and mean IPSS (19 versus 20, p = 0.38) were equivalent in both groups. Vaporization was associated with a significant increase in operative time (mean of 81 ± 15 min range 40-110 versus 55 ± 10 min range 30-70 min, p < 0.001), less blood loss (0.8% versus 2.0% drop in hemoglobin, p < 0.001) but increased postoperative urinary frequency (80% versus 50%, p < 0.001), hematuria with clots up to 4 weeks post surgery (20% versus 2%, p < 0.001) and postoperative urethral stricture (11% versus 0%, p < 0.001). Both techniques improved urine flow with Q-max (17 ml/s versus 18 ml/s p = 0.22). Prostate volume (32 g versus 31 g, p = 0.31) and IPSS (6 versus 5, p = 0.22), were comparable in both treatment arms.

Bipolar vaporization of the prostate, despite being a technically robust, speedy and with less intraoperative bleeding, appears to be associated with increased postoperative irritative symptoms, increased late-onset postoperative bleeding and high urethral stricture rates.

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