ture planning of this procedure as a day case operation. The differences in operative and catheterization times between TUVRP and TURP may be clinically significant, when considering the procedure costs and the demand for lower morbidity profiles by patients. The change to this new modification of transurethral electrosurgical prostatectomy is easy. It is not necessary to invest in new technology, since TUVRP uses the standard resectoscope and electrosurgical generators used for TURP that are available in any modern urology unit. Furthermore, the technique is familiar to urologists, although the speed of resection must be slowed to achieve the advantages of electrovaporization. Investigators of novel technologies for the treatment of prostatic obstruction compare their results to the reference standard TURP. We believe that the lower levels of bleeding and electrolyte disturbances seen with the thick loop should set the new standard against which comparisons are made in the future.

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EDITORIAL COMMENT

This study compares the safety and efficacy of new thick-loop (Wing resection electrode) to standard-loop TURP. Both techniques were efficacious, as judged by the standard subjective (International Prostate Symptom Score [IPSS]) and objective (maximum urinary flow rate [Qmax]) parameters. The improvement in the IPSS and Qmax were significantly better after thick-loop than standard TURP. After thick-loop TURP, patients enjoyed a 40% lower IPSS and 25% higher Qmax than those who underwent standard-loop TURP, although the follow-up was limited (6 to 15 months). The absolute numbers responsible for these percentage differences, although statistically significant, may not be as significant in clinical practice.

The authors report significantly shorter resection times with the standard-loop TURP (averaging 18% quicker) than the thick-loop TURP. On the other hand, they report significantly less bleeding, less hyponatremia, and shorter catheterization after the thick-loop than the standard-loop TURP. The differences in the postoperative hematocrit and serum sodium were minor and although statistically significant, they should not pose any adverse sequelae. The duration of postoperative catheterization was significantly shorter after the thick-loop than the standard-loop TURP (2 versus 3 days). This finding may have significant clinical impact, particularly regarding patient comfort and cost savings (shorter hospitalization). Having said that, the decision to leave the catheter in the bladder in this study was entirely based on the surgeon's subjective opinion regarding the degree of hematuria. A 3-day catheterization after standard TURP seems excessive, since the current practice in the United States is to remove the catheter within 24 to 48 hours. Therefore, one has to consider whether there was any element of bias.

The advent of new thick loops for TURP seems advantageous initially; however, one has to wonder whether the claimed benefits, if any, have a true clinical impact. The need for truly hemostatic TURP continues. The suggestion that a single-source radiofrequency (RF) delivered by a single electrode assembly can be capable of dual function and tissue effect (cutting and coagulation) is, I believe, rather simplistic. The physical characteristics of single RF energy do not allow for such a dual tissue effect. In my opinion, the ultimate dual function (cutting and coagulation) rests in having two independent RF energies capable of exerting the desired hemostatic tissue cutting. Indeed, we have recently been successful in demonstrating this by splitting RF energy from a single-source generator into multiple energies (in phase) capable of various tissue effects. This technology will make it possible to perform truly hemostatic surgery. Until such time when the technology becomes commercially available, urologists will have to contend with various loops, attempting to manipulate the RF energy density and delivery through various contact surfaces, power wattage, and duration of tissue contact (speed

of loop resection). The standard TURP loop can be readily manipulated to produce the same tissue effects as the thick loop by altering three variables: (a) decreasing the power of the cutting RF energy from the standard 150 W reported in this study to 80 to 100 W; (b) blending the cutting energy to the maximum setting instead of using "pure" cutting (the degree of blending depends on the type of generator used), and (c) moving the loop slower through the tissue. It is to be emphasized that various RF generators use different blending properties, making the choice of generator an important one. Additionally, the safety of standard-loop TURP can be further enhanced by maintaining low intravesical pressure intraoperatively (by the use of a continuous irrigation resectoscope or possibly suprapubic tube), administering furosamide prophylactically during the resection, and ensuring that the anesthesia team uses normal saline rather than other types of diluted intravenous fluids.

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REPLY BY THE AUTHORS

It is true that for a "truly hemastatic prostatectomy," a complete dual function and tissue effect (cutting and coagulation) are needed, which will probably come only with the introduction of new surgical generators capable of providing two independent radiofrequency energies. Until that time, the extra energy in the pure cutting current that is used for simultaneous electrovaporization and resection seems to provide the benefit of improved coagulative hemostasis.[1,2] The potential advantages seen with the new thick electrodes for TURP are related mainly to better use of the electrosurgical principles involving the use of higher electrocutting energy and slower motion of the loop through the tissues. Modifications to the standard TURP energy settings along with slower motion of the wire loop may produce some of the tissue effects noted with the thick loop; however, the added component of prostatic debulking by vaporization is lost with the reduction in the level of the cutting current.[3] We believe that greater debulking of the prostate is achieved with simultaneous resection and vaporization using the thick loop, which may account for the statistically significant advantage in the Qmax after the procedure. Furthermore, the desiccation of prostatic tissue that is governed by the quality of contact with the tissue and the time the electrode remains at the same spot[3] cannot be the same between TURP and TUVRP, since one would expect that the design of the thick or roller electrodes (broader surface) will enhance the quality of contact between the prostatic tissue and the loop used. The additional measures of administering furosamide prophylactically during resection or the use of intravenous normal saline intraoperatively would certainly enhance the safety of TURP using the standard wire loop, as well as the thick loop or the roller electrode. The lack of clinical impact to the statistically significant advantages noted with the thick loop in relation to reduced bleeding and electrolyte disturbances may require that larger series of patients be studied in the future to demonstrate any clinical relevance or the definite lack of it. This should be noted particularly when considering that the incidence of clinical transurethral resection syndrome or the need for blood transfusion after standard TURP is low anyhow.

The basis for removing the catheters in the postoperative period was applicable equally to both groups in this prospective randomized study, which helps to reduce the bias in the results. The mean catheterization time in our study was 23 and 36 hours for the thick-loop and standard TURP (ie, 1 and 1.5 days), respectively. This difference in real time is both statistically and clinically significant, particularly in relation to patient comfort and duration of hospitalization.

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