Electrovaporization of the Prostate: Initial Experiences and Nursing Management

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During transurethral resection of the prostate (TURP), electrocautery power has traditionally been used to control bleeding. Heaton, Wilson, and Nickel (1995) observed that electrocautery power could also be used for ablation of obstructive prostatic tissue. By substituting a roller ball for the cold knife, and by increasing the power setting to 200 watts or greater, prostate tissue could be vaporized. In a brief report, they cited a number of anecdotal observations purporting the superiority of this technique as compared to traditional TURP. The authors cautioned that moderation was needed when reporting results with this new technique as controlled investigations of its safety and efficacy, including a comparison to the TURP, had not been undertaken. Since that time, multiple investigations of electrovaporization of the prostate have been published, and this procedure is now commonly per-

**Study Description**
Electrocautery power is increasingly used to destroy prostatic tissue as well as to control bleeding during transurethral surgery for benign prostatic hyperplasia. This study summarizes our initial experiences with the electrovaporization procedure and combines these with the published findings of others in order to provide recommendations for the nursing management of this increasingly common urologic surgical procedure.

**Methods**
A retrospective review of 36 consecutive patients managed by electrovaporization of the prostate was completed. A standardized data collection form was used to evaluate the preoperative preparation, intraoperative experiences, and short-term postoperative responses to the electrovaporization procedure. These data were combined with the published experiences of others in order to provide initial insights into the nursing management of patients undergoing this procedure.

**Results**
Patient preparation was similar to that used for transurethral resection of the prostate. No patients experienced significant intraoperative bleeding. Two subjects (7%) experienced significant but transient hematuria in the postoperative period. Five men (17%) experienced urinary retention requiring catheterization, of these three were caused by blood clots and two were attributable to preexisting detrusor muscle weakness. Urinary tract infection occurred in eight patients (27%), three of which were accompanied by a fever. All patients reported urethral and suprapubic pain following the procedure. One subject experienced flank pain caused by an acute obstruction of a solitary ureter, and one reported bladder spasms. Significant pain requiring analgesia resolved within 5 days of the procedure in all cases.

**Conclusions**
The preoperative nursing management of the patient undergoing electrovaporization of prostate tissue is similar to that for transurethral resection of the prostate with the exception of patient teaching. Patient education should emphasize self-assessment for urinary retention, hematuria, and urinary tract infection. The postprocedural care initially focuses on monitoring the patient for catheter patency, hematuria, and infection. Patients and significant others should be warned that delayed hematuria and urinary retention may occur days or weeks after electrovaporization of the prostate.

During the past decade, the number of alternative procedures for prostate tissue destruction has grown significantly. Each of these procedures offers potential advantages when compared to the classic transurethral resection of the prostate (TURP). While their usefulness in treating obstruction due to benign prostate enlargement has been reasonably well described (McCullough, 1998), the nursing management of patients undergoing many of these procedures has not been adequately studied or described. The purpose of this study was to summarize our initial experiences with the VaporTome procedure and to better define the nursing management of patients undergoing this increasingly common urologic surgery.

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formed by many urologists in the United States, Canada, and the United Kingdom (Ekengrad & Hahn, 1996; Meade & McLoughlin, 1996; Narayan et al., 1997; Stewart et al., 1995; Thomas, Cornaby, Philp, & Matthews, 1996).

Electroevaporation (also referred to as the VaporTrobe procedure; transurethral electroevaporation of the prostate, or vaporization of the prostate) uses one of several commercially available devices to destroy obstructive prostate tissue. A rollerball may be used, although newer devices are generally designed as a grooved bar that is approximately 3 mm in diameter and width. Single or dual rollerball devices have been developed, but a review of the literature from 1995-1998 revealed no studies related to the efficacy of these designs. The electroevaporation ball or bar is inserted through a 25 or 26 French resectoscope and attached to any one of a variety of electrocautery power sources readily available in the urologic endoscopic suite. Tissue vaporization requires a current of 200 to 300 watts, as compared to the 80 to 150 watts used to cauterize blood vessels during TURP (Stewart et al., 1995; Thomas et al., 1996).

Literature Review

The VaporTrobe procedure is designed to reduce the bothersome obstructive symptoms caused by benign prostatic hyperplasia and to increase both peak and mean flow rates. Stewart and his associates (1995) performed prostatic electroevaporation on 34 patients. They found that International Prostate Symptom Scores (IPSS) fell from a mean of 26 out of a possible 35 before the procedure to 12 following treatment. In addition, they observed that the maximum flow rate increased from a mean of 10 ml/second before the procedure to 15 ml/second after electroevaporation. Meade and McLoughlin (1996) performed transurethral electroevaporation in 51 consecutive patients. Fourteen subjects completed an IPSS, uroflowmetry, and postvoid residual measurement both prior to and following the procedure. Among these subjects, the mean IPSS was 19, the average maximum flow rate was 10.6 ml/second, and the postvoid residual volume was 166 ml. Following electroevaporation, the IPSS fell to a mean of 7.6, the average maximum urinary flow rate increased to 16.8 ml/sec, and the postvoid residual volume fell to an average volume of 64 ml.

Electroevaporation has been compared to both TURP and to laser prostatectomy in randomized trials. Shokeir and colleagues (1997) evaluated 70 men with BPH randomly assigned to undergo either TURP or electroevaporat.ion. Baseline evaluation demonstrated that the participants in the two groups of 35 had no statistically significant differences with respect to IPSS, uroflow values, or prostate size. They found that reductions in IPSS and increased values on uroflowmetry achieved by electroevaporation were comparable to those achieved by TURP. However, they did find that electroevaporation required more intraoperative time.

Narayan and associates (1997) compared the efficacy of the VaporTrobe procedure with visual laser ablation of the prostate in 64 men with BPH. Thirty-two men were randomized to each group and preoperative evaluation comprised the IPSS, peak urinary flow rate, and postvoid urinary residual volume. These three variables were subsequently measured at 1, 3, 6, and 12 months postoperatively. Comparison of the two groups revealed no significant differences with respect to IPSS, urinary flow rates, or residual volumes. They did find that subjects who underwent laser prostatectomy were more likely to require re-operation for persistent obstruction, and were more likely to experience prolonged postoperative urinary retention than were those who underwent electroevaporation. They also found that postoperative peak urinary flow rates, IPSS, and postvoid urinary residual volumes were significantly better in men who had undergone electroevaporation than in those who had laser prostatectomy.

As with any invasive procedure, the effectiveness of electroevaporation of the prostate must be weighed against the risk of associated complications. Ekengrad and Hahn (1996) compared the efficacy of electroevaporation to TURP, focusing on the complications associated with each procedure. They compared the complication rates after 27 electroevaporation procedures and 100 TURP procedures. Prostate electroevaporation was associated with less blood loss, a smaller decline in arterial blood pressure, reduced reabsorption of irrigation fluid, and smaller changes in serum sodium values when compared to TURP.

Chow and colleagues (1998) evaluated intra and postoperative bleeding among 524 consecutive patients who underwent TURP and 302 consecutive patients treated by electroevaporation. They reported that the incidence of significant hematuria (bright red blood with clots requiring evacuation) was 4.8% for TURP and 4.0% for electroevaporation. The majority of patients in both groups experienced hematuria lasting
several weeks following the procedure, possibly representing bleeding related to sloughing of the original scabs formed in the immediate postoperative period. In most cases, hematuria was resolved by evacuation of the bladder and transient catheterization. However, five (1.1%) of those treated by TURP required hospital admission as compared to one (0.3%) of the men treated by the VaporT rode procedure.

Meade and McLoughlin (1996) also reported relatively few complications following the VaporT rode procedure based on their experiences with 51 subjects. Three patients experienced complications unrelated to the procedure, and two (4%) required catheterization for significant hematuria. In one patient hematuria resolved without further intervention, but the other required repeat electrovaporization before the bleeding was controlled and urinary retention relieved. Narayan and associates (1997) reported persistent urinary retention in 2 of 32 subjects (6%) treated with electrovaporization, symptomatic bacteriuria in 2 of 32 (6%), and persistent irritative symptoms in 10 subjects (32%).

None of the investigators found any evidence of post-TUR syndrome, significant changes in blood pressure during the procedure, or postoperative urosepsis following electrovaporization. It is important to note that both Ekengrad and Hahn (1996) and Shokeir and colleagues (1997) observed evidence that at least some of the irrigation fluid used during the VaporT rode procedure was absorbed through the venous bed of the prostate.

Several studies have examined the risk of sexual dysfunction following the VaporT rode procedure. Since electrovaporization destroys prostatic tissue, men who undergo the procedure are expected to experience retrograde ejaculation. The incidence of erectile dysfunction is expected to be small, provided the procedure does not damage the nerve bundles that carry modulatory innervation to the corpora cavernosa. MatosFerreira and Varroso (1997) performed prostatic electrovaporization on 91 subjects and reported that none experienced erectile dysfunction. In contrast, Shokeir and colleagues (1997) reported that 2 of 18 men (11%) reported erectile dysfunction following electrovaporization. Chen et al. (1997) reported an impotence rate of 12.5% 3 months following the VaporT rode procedure. Shokier et al. (1997) also observed that all of the men they treated experienced retrograde ejaculation. None of the researchers reported de novo urinary incontinence following electrovaporization.

Because the VaporT rode procedure is gaining popularity as a technique for ablating obstructive tissue, and because the procedure offers several potential advantages when compared to laser prostatectomy or TURP, urologic nurses are actively involved in managing patients who undergo this procedure. The purpose of this observational study was to review our experience with transurethral electrovaporization and to combine our experiences with the published reports of others to better define the nursing management of men undergoing this procedure for symptomatic benign prostatic hyperplasia.

Materials and Methods

Subjects and setting. The medical records of a group of men who underwent electrovaporization for prostatic enlargement were reviewed. Consecutive cases over a 6-month period in 1996-1997 composed the research sample. All subjects underwent their preoperative evaluation, intraoperative and perioperative care, and postprocedure followup at the University of Virginia Department of Urology and Hospital.

Procedures. Medical records were reviewed and data were transcribed on a standardized form. The data collection form included information from the preoperative evaluation, intraoperative course, and followup for 3 months following the procedure; long-term follow-up was not included due to incomplete data. All subjects were assigned a medical number and only aggregated data are reported. Individual informed consent was not obtained because the study involved retrospective chart review.

Results

Subjects. The research sample comprised 36 consecutive patients who underwent electrovaporization. The mean age of the subjects was 71 years, representing a range of 50 years to 85 years. Several clinical conditions lead to a treatment decision for transurethral prostatic electrovaporization. The majority of the subjects had symptomatic BPH (83%), but others had recurrent obstruction following traditional TURP (6%), or obstruction caused by prostate cancer (11%).

Preoperative preparation. Preoperative evaluation included a focused medical history, IPSS, and physical assessment including a digital rectal examination. The mean IPSS was 21, with a range of 13 to 30 out of a possible 35. Postvoid residual volumes were measured on all subjects, and uroflowmetry was recorded on 17 of the 36 subjects (47%). The average postvoid residual urine volume was 471 ml with a range of 35 ml to 3,000 ml. The average maximum flow rate was 7.4 ml/sec and the
mean average flow rate was 3.2 ml/sec.

Each of the 32 subjects who were being treated for lower urinary tract symptoms related to BPH were also evaluated for the presence of prostate cancer. The mean serum prostate specific antigen (PSA) was 13.3, ranging from 0.4 to 81. Twenty-four of the 32 men (75%) treated with electrosurgical vaporization for prostatic enlargement underwent additional evaluation (prostatic ultrasound and transrectal biopsies as indicated) to exclude the possibility of prostate cancer. Six (30%) had prostate cancer, but underwent electrosurgical vaporization and subsequent conservative management of their prostate cancer based on the stage of the disease, patient preference, their chronologic age, and general health. The weight of the prostate was estimated in this group using ultrasonic imaging; the mean weight was 86 grams, ranging from 30 to 150 grams.

In addition to patients who underwent electrosurgical vaporization for lower urinary tract symptoms related to BPH, five men were treated for obstruction caused by advanced stage prostate cancer. As expected, the average PSA for this subgroup was high (615.4) when compared to those men with BPH or newly diagnosed prostate cancer (mean 13.3), although their prostate size tended to be smaller (mean 70 grams versus mean 86 grams).

Intraoperative course. Preparation for the procedure, including skin preparation and sterile draping, was similar to that used for TURP. Thirty of 36 men (83%) underwent regional anesthesia, and 6 (17%) had general anesthesia. Eleven men took oral antibiotics prior to their procedure and the remaining 25 received parenteral anti-infective agents immediately prior to and during the procedure.

The operative time required for the VaporTrobe procedure was compared to that required for a traditional TURP but no statistically significant differences were found. Transurethral electrosurgical vaporization for the 32 men with new or recurrent BPH required an average of 84.4 minutes, compared to an average surgical time of 83.8 minutes for 30 consecutive men who underwent TURP during the same time period. However, the time required to complete electrosurgical vaporization for the four men with prostate cancer was significantly longer, requiring an average of 140.2 minutes (p<0.00). None of the patients experienced significant intraoperative blood loss, including two men who had discontinued warfarin therapy prior to the procedure. None experienced a precipitous change in blood pressure or anesthesia-related complications during the procedure.

Postoperative course. Postoperative sequelae and complications included hematuria, urinary retention, urinary tract infection (UTI), acute ureteral obstruction, and pain. See Table 1 for a comparison of our outcomes to those reported by other authors.

Following the VaporTrobe procedure, all patients were transported to the postanesthesia care unit with an indwelling urinary catheter. Thirteen men (43%) had both a urethral and suprapubic catheter; these represented very early experiences with electrosurgical vaporization. The suprapubic catheter was used to provide additional bladder drainage and to control bleeding if present. The remaining 17 (57%) were managed with a urethral catheter only.

Patients were closely monitored for post-TUR syndrome during the immediate postoperative period. None experienced hypoammonemia or TUR syndrome, even though 7 of 32 procedures (22%) required more than 120 minutes of operative time.

Four men (13%) reported pink-tinged urine following the procedure that persisted for approximately 3 to 6 days. Two patients (7%) experienced more significant hematuria. One patient experienced gross hematuria and passed several clots in his urine. This patient routinely took a daily aspirin because of a previous CVA, but the medication had been discontinued 1 week prior to the procedure. He required one bladder irrigation, after which the hematuria resolved. One patient reported spontaneous bleeding approximately 3 months after his procedure. The bleeding was significant, requiring catheterization and bladder irrigation. Endoscopic examination revealed that the bleeding was probably related to a discreet, inflamed lesion found within the prostatic urethra. An indwelling catheter was placed and removed approximately 1 week later. This treatment was successful and no further episodes of hematuria were reported.

Catheter removal occurred anywhere from 1 to 4 days following electrosurgical vaporization and the majority of the patients (90%) were discharged within 24 hours. Three patients required longer hospitalization. One patient remained in hospital for 4 days because of an acute ureteral obstruction and renal insufficiency as described previously. The other two underwent additional procedures, unrelated to their urologic condition, that prolonged their hospital course.

Five patients (17%) required a second catheterization for urinary retention; two patients because of blood clots in the bladder and two who were unable to urinate despite clear urine. Both of the patients with clear urine were diabetic and carried large residual urine vol-
Table 1.
Physiologic Outcomes of VaporTmode Procedure

<table>
<thead>
<tr>
<th>Complication</th>
<th>Current Series</th>
<th>Previous Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematuria (immediate postoperative period)</td>
<td>13% (pink-tinged urine) 7% (bright red urine with clots)</td>
<td>Not reported 4% (bright red urine with clots) (Narayan et al., 1997)</td>
</tr>
<tr>
<td>Delayed hematuria</td>
<td>3% (bright red urine with clots)</td>
<td>4% (bright red urine with clots requiring transfusion) (Ekengrad &amp; Hahn, 1996)</td>
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<tr>
<td>Urinary retention</td>
<td>17% (catheterization and drainage of urine required)</td>
<td></td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>14% (symptomatic, afebrile) 8% (symptomatic, febrile)</td>
<td>6% (Narayan et al., 1996)</td>
</tr>
<tr>
<td>TUR syndrome</td>
<td>0</td>
<td>0 (Ekengrad &amp; Hahn, 1996; Narayan et al., 1997)</td>
</tr>
<tr>
<td>Bladder spasms</td>
<td>3%</td>
<td>Not reported</td>
</tr>
<tr>
<td>Pain</td>
<td>100% (all discontinued analgesics 4-5 days following procedure)</td>
<td>Not reported</td>
</tr>
<tr>
<td>Sexual Dysfunction</td>
<td></td>
<td></td>
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<tr>
<td>Ejaculatory dysfunction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erectile dysfunction</td>
<td>100%</td>
<td>100% (Shokeir et al., 1997)</td>
</tr>
<tr>
<td>Irritative voiding symptoms</td>
<td>11%</td>
<td>0-12.5% (Chen et al., 1997; Ferreira &amp; Varregoso; 1997; Shokeir et al., 1997)</td>
</tr>
<tr>
<td>New onset of urinary incontinence</td>
<td>0</td>
<td>9%-32% (Narayan et al., 1996; Shokeir et al., 1997)</td>
</tr>
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</table>

umes prior to electrovaporization; one experienced a return of spontaneous voiding within 2 weeks and the other was able to urinate spontaneously after 4 weeks. Eight patients (27%) experienced symptomatic UTIs following the procedure, three of which were accompanied by a fever. All of these resolved spontaneously with sensitivity-guided oral antibiotic therapy. None required repeat hospitalization.

All patients were managed with parenteral analgesics during the immediate postoperative period and switched to oral analgesics within 24 hours of the procedure. Each patient was discharged with a one-time prescription for an oral, narcotic analgesic for pain. Nursing and medical notes in the patient's medical records described the pain as a continuous burning discomfort localized to the suprapubic and urethral area. Only one patient (3%) experienced bladder spasms; he was discharged with a prescription for B & O suppositories. Subsequent notes in the medical record described resolution of these symptoms after 5 days.

One patient complained of flank pain immediately following electrovaporization of the prostate. This man had a solitary kidney and his procedure lasted 113 minutes. He developed an elevated serum creatinine postoperatively. Based on these findings, the patient was brought back to the endoscopy suite. Examination revealed acute obstruction of a single ureteral orifice attributed to edema, and a ureteral stent was placed. This produced rapid relief of his flank pain and a slower return of his serum creatinine to preoperative values.

Discussion
A review of the literature from 1995 to 1998 revealed only
one article describing the nursing management of the patient undergoing the VaporTrode procedure (Churchill, 1997). The postoperative course was described as significantly different from the TURP. The author stated that patients undergoing electrovaporization should be expected to experience a "tissue slough" causing the urine to have a "cloudy appearance." The author also claimed that hematuria should not occur. Discharge teaching was emphasized, particularly since most patients are expected to be discharged within 24 hours. Teaching included catheter care, observation for gross hematuria or the passage of large blood clots in the urine, and catheter occlusion. All patients were advised to contact their urologist if they developed a fever greater than 101 degrees F, urinary urgency, or pain not relieved by analgesic medications. Activity restrictions were described as identical to those following TURP.

Based on review of the literature and our experiences, we find that nursing management of the patient undergoing transurethral electrovaporization shares many more similarities to the care of the patient undergoing TURP than have been reported previously (Churchill, 1997). The primary nursing diagnosis during preoperative preparation is knowledge deficit. The preoperative evaluation should include a focused history including voiding symptoms and a lower-urinary tract symptom score such as the IPSS (Barry et al., 1992). These data are important as they allow for quantification of the efficacy of the procedure with respect to voiding complaints. A serum creatinine should be obtained as a routine part of a BPH evaluation and this laboratory value can be compared with values following the VaporTrode procedure to determine if one or both ureters is obstructed by postoperative edema or bleeding.

The patient should be instructed that the primary goal of the procedure is to relieve both the obstruction caused by his enlarged prostate and the voiding symptoms associated with this condition. He should be counseled that he may observe "pink-tinged" urine following the procedure indicating minor bleeding, but he should not pass a significant volume of blood causing a bright red appearance to the urine, or blood clots. Because the procedure vaporizes prostate tissue (in contrast to transurethral laser or microwave prostatectomy), there is no basis for advising the patient that tissue slough should be expected following treatment.

The patient should be advised that he will have an indwelling catheter for approximately 1 day following the procedure, although a longer period of catheterization may be required if he has history of diabetes or any other medical condition associated with a weakened strength of detrusor contractions. He also should be counseled that he will experience some localized discomfort that will be managed with analgesics.

Following the procedure, the primary nursing diagnosis is altered urinary elimination. In the immediate postoperative period the patient will have a urethral or suprapubic catheter. The initial urinary drainage may be yellow or pink tinged. Our experience, combined with the experience of others (Ekengrad & Hahn, 1996; Stewart et al., 1995), shows that bright red urine or blood clots are not expected and, if present, represent a significant complication. The catheter drainage system should be regularly monitored for patency and the passage of bright red urine or blood clots, which should be reported promptly to the urologist.

While no cases of TUR syndrome have been reported and none of our patients experienced this complication, both Ekengrad and Hahn (1996) and Shokeir and colleagues (1997) found evidence that irrigation fluid is reabsorbed by the prostatic venous bed during the VaporTrode procedure. Although the volume of reabsorbed fluid was noted to be less than that reported during TURP, the possibility of this potentially life-threatening syndrome must not be completely excluded, and patients should be closely monitored for changes in mentation or vital signs during the immediate postoperative period. Should any changes occur, the urologist should be notified immediately and a prompt evaluation for TUR syndrome completed.

In most cases, the catheter will be removed within 24 hours of the procedure and the patient will undergo a voiding trial. No patient should be discharged from the urologic outpatient surgery center or hospital before he has demonstrated the ability to empty the bladder via spontaneous urination at least once. Patients should also be advised that urinary retention or bleeding may occur even after the catheter has been removed. Because the incidence of urinary retention is relatively low (varying from 6%-10%), it may not be necessary to routinely teach intermittent self-catheterization. Nonetheless, significant hematuria and urinary retention may occur as long as 8 to 12 weeks following electrovaporization. Treating this complication requires catheterization and evacuation of clots from the bladder; accordingly patients should be advised to promptly contact the urologist or urologic nurse should they experience...
this unexpected outcome.

The patient also should be advised that irritative voiding symptoms are common following catheter removal. All of our patients reported transient discomfort following catheter removal, and persistent irritative symptoms have been reported for as long as 12 months following electrovaporization of the prostate (Narayan et al., 1997). Patients should be taught to manage irritative voiding symptoms by manipulating their fluid intake, avoiding bladder irritants, managing constipation, and maintaining a flexible but regular urination schedule. Those with more severe symptoms may benefit from a urinary analgesic such as phenazopyridine (Pyridium®) or a combination agent such as Unised®.

Current experience demonstrates a significant potential for infection following the VaporTrobe procedure. Initial results indicated an infection rate of 6% to 27%, and 8% of our patients experienced febrile UTI despite antibiotic suppression. Antimicrobial medications should be administered as directed prior to and during the procedure, and preoperative assessment should routinely include a urinalysis and a urine culture if indicated. The patient should be taught to recognize the signs and symptoms of a UTI and to promptly contact the urologist should he experience these symptoms following electrovaporization of the prostate.

Pain is also a significant issue following the transurethral electrovaporization procedure. Patients are expected to experience a continuous, burning discomfort in the suprapubic and urethral area. Flank pain represents unexpected symptoms and may indicate obstruction of the ureteral orifice caused by edema or blood clots.

Parenteral narcotic analgesia was required for all of our patients, but all were able to move to oral medications rapidly. Anticholinergic medications or a combination narcotic/anticholinergic agent (such as a B&O suppository) may be used to manage postprocedural pain caused by bladder spasm.

Nonpharmacologic pain management includes monitoring the patient for occlusion of the catheter and subsequent bladder overdistension. Patients should be taught to manage bladder spasms by ensuring adequate fluid intake, avoiding or reducing the intake of bladder irritants, and assessment for evidence of catheter occlusion or infection. A warm sitz bath or application of a warm compress to the suprapubic area also may relieve pain following catheter removal.

Churchill (1997) advised teaching patients to expect cloudy urine because of tissue slough. Our experiences do not support this recommendation. Since the high electrocautery energies used during the procedure cause vaporization of prostatic tissue, rather than the tissue damage and subsequent necrosis produced by laser or microwave prostatectomy, tissue slough should not be expected.

Conclusion

Nursing management of patients undergoing the VaporTrobe procedure focuses on monitoring and preventing excessive bleeding, preventing or managing urinary retention, relieving pain, and avoiding urinary tract infection. Patient and family teaching, both before and immediately following the procedure is particularly important, since the patient is typically discharged within 24 hours. Followup care over the first 3 postoperative months includes monitoring for prolonged or delayed urinary retention and bleeding, which may occur days or weeks following electrovaporization.

References


