FEMALE UROLOGY

Perioperative complications: the first 140 polypropylene pubovaginal slings

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Purpose: Two widely used tensionless mid urethral slings currently available are the SPARC polypropylene sling (American Medical Systems, Minneapolis, Minnesota) and the TVT (tensionless vaginal tape, Ethicon, New Brunswick, New Jersey). As with the TVT system, the SPARC has been suggested as an outpatient procedure. We present the early complications of our first 140 slings, based on which we recommend that observation of all patients overnight following the SPARC sling be considered.

Materials and Methods: We retrospectively reviewed the charts of the first 140 patients who received the SPARC polypropylene pubovaginal sling at our institution to evaluate for early complications requiring intervention. Because we wished to evaluate for occult bleeding, we checked the hematocrit on postoperative day 1 in the last 57 patients regardless of blood loss in the operating room.

Results: A total of 6 patients required intervention in the early postoperative period, including transfusion in 4 immediately postoperatively for retropubic bleeding. One patient had presented with pelvic pain and vaginal bleeding 1 week postoperatively and was found to have a large retropubic hematoma that required percutaneous drainage. The final patient was discharged home on postoperative day 1 in stable condition but presented on postoperative day 4 with drainage from a suprapubic incision. She had a perforation through a loop of small bowel that required resection of a short segment of the bowel and removal of the sling. The mean decrease in hematocrit from preoperative to postoperative day 1 was 7.1% (range 1% to 14%) despite a mean intraoperative blood loss in this group of 170 cc (range less than 50 to 700 cc).

Conclusions: We recommend caution with any patient who receives a sling that requires passage of needles through the retropubic space, which can result in occult retropubic bleeding, and dilation of the tract. While visceral injury is exceedingly rare, it must be discussed as a possible risk of the surgery. We continue to advocate SPARC as an excellent sling option but we caution surgeons of the potential complications and urge careful postoperative monitoring. We recommend that SPARC not routinely be considered as an outpatient procedure.

Editorial Comment

The authors retrospectively reviewed the charts of 140 patients who underwent a polypropylene suburethral pubovaginal sling using the SPARC device. The patients' charts were examined and notations were made regarding the rate of post-operative hemorrhage with or without transfusion as well as bowel injury. Based on the review the authors recommend overnight observation after this surgery secondary to potential complications and discourage its performance as an outpatient procedure.

This is another article from two outstanding urologists describing their experience with the SPARC procedure and potential complications of same (1). I feel the paper is excellent and warrants close reading by the interested urologic surgeon. The only shortcoming of the paper I could detect was that though the title claims this paper to be peri-operative complications, the descriptions were fairly limited to that of bleeding and potentially catastrophic bowel injury. Because of the wealth of their experience, the authors have the potential to describe all the complications associated with this specific procedure including dyspareunia, tape erosions, urinary retention, persistent incontinence, as well as anesthetic complications of pneumonia, throat/tracheal irritation etc.

The authors do describe the SPARC being potentially different from the TVT operation secondary to the SPARC system using a "finger guided delivery of the smaller needles from top to bottom". This is somewhat

different from some of the previous descriptions of the operation, which describe a shifting type maneuver of the needle once it perforates the rectus fascia with the needle, then exiting the anterior vaginal epithelium as opposed to a complete finger guided delivery that is done with a formal opening of the urethral pelvic ligament. It may have been of interest to hear the authors' thoughts on whether the bowel injury could have been avoided if the urethral pelvic ligament had been opened and adhesion swept off the back of the pubic bone prior to the passage of the suture ligature carriers. Nevertheless, the authors should be commended in that the paper is excellent for its emphasis to the urologic surgeon that just because one may do an operation as an outpatient, it may not necessarily be the safest route of therapy and that in this specific type of operation overnight stay may be warranted secondary to potential post-operative hemorrhage or bowel injury.

Reference

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The natural history of hydronephrosis after radical hysterectomy with no intraoperatively recognizable injury to the ureter: a prospective study

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Objective: To investigate, in a prospective study, the natural history of hydronephrosis of the urinary tract after radical hysterectomy.

Patients and Methods: From December 1997 to March 2001, 34 patients with localized cervical cancer underwent radical hysterectomy by one gynaecologist, with no intraoperatively identifiable injury to the ureter. Intravenous urography was used routinely before and at 2 and 4 weeks after surgery. The degree of hydronephrosis was graded I - IV.

Results: Urography before surgery showed no abnormal finding in any of the patients, except in one with a unilateral duplex kidney. Hydronephrosis was found in 10 units in the upper tract (grade II in eight, III in one and IV in one) in seven patients (21%) 2 weeks after surgery (one right, three left and three bilateral). All the ureteric narrowing was in the distal ureter. The hydronephrosis disappeared in four units in three patients, but became worse in two units in two patients with bilateral pathology in the fourth week. At 3 months after surgery no hydronephrosis had deteriorated and the hydronephrosis in all units had disappeared by 6 months. The presence of hydronephrosis was significantly correlated with pathological stage and age ($P < 0.05$).

Conclusion: Hydronephrosis was detected after radical hysterectomy even with no intraoperatively recognizable injury to the ureter, but in most the hydronephrosis improved spontaneously and needed no ureteric stenting or surgical intervention.

Editorial Comment

The authors perform a prospective study on the natural history of hydronephrosis after radical hysterectomy. The population was limited to patients who had undergone radical hysterectomy by a single

gynecologist with no intraoperative injury to the ureter. The patients were followed by radiographic imaging using intravenous urography preoperatively then again at 2 and 4 weeks postoperatively. Findings included the presence of hydronephrosis in 10 renal units out of the 34 patients who were included in the study. There was no serial increase in any noted hydronephrosis at the 3 month postoperative check-up and there was radiographic resolution all affected kidneys by 6 months. The value of this study lies in its assisting the urologist in understanding the natural history of incidental hydronephrosis after hysterectomy. Many times the consulting urologist noting this radiographic finding must make the diagnostic and clinical decision to perform ureteric stenting versus percutaneous nephrostomy tube or allow for watchful waiting. This study emboldens those urologists who wish to follow an asymptomatic patient conservatively. The authors should be commended on their study. The paper's value may have been potentially increased if a comment could have been made on whether the patients had undergone cystourethroscopy after intravenous indigo carmine injection during the operation (1) to delineate ureteral patency; in addition, a description of the postoperative urinalysis and serum creatinine in all patients postoperatively with special emphasis on the patients with abnormal radiographic findings and a brief commentary on the patient's symptoms and clinical examination would have been enlightening. One wonders based on this study, what the rate of incidental and clinically significant post operative hydronephrosis would be in patients with patent ureters checked intraoperatively with intravenous indigo carmine.

Reference

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PEDIATRIC UROLOGY

One hundred percent patient and kidney allograft survival with simultaneous liver and kidney transplantation in infants with primary hyperoxaluria: a single-center experience

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Background: Combined liver-kidney transplantation is the definitive treatment for end-stage renal disease caused by primary hyperoxaluria type I (PH1). The infantile form is characterized by renal failure early in life, advanced systemic oxalosis, and a formidable mortality rate. Although others have reported on overall results of transplantation for PH1 covering a wide age spectrum, none has specifically addressed the high-risk infantile form of the disease.

Methods: Six infants with PH1 underwent simultaneous liver-kidney transplantation at our center between May 1994 and August 1998. Diagnosis was made at 5.2 +/- 3.3 months of age, they were on dialysis for 11.8 +/- 2.3 months, and they underwent transplantation at 14.8 +/- 3.0 months of age when they weighed 10.6 +/- 1.7 kg.

Results: At a mean follow-up of 6.4 +/- 1.7 years (range, 3.9 - 8.1 years), we report 100% patient and kidney allograft survival. There were no cases of acute tubular necrosis. Long-term kidney allograft function remained stable in all patients, with serum creatinine values of less than 1.1 mg/dL and a mean creatinine clearance of 99 mL/min/1.73 m2 at follow-up. Those who received combined hemodialysis and peritoneal