What's New in Urology

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"What's New in Surgery" evolves from the contributions of leaders in each of the fields of surgery. In every instance the author has been designated by the appropriate Council from the American College of Surgeons' Advisory Councils for the Surgical Specialties. This feature is now presented in issues of the Journal *throughout the year.*

ANDROLOGY AND INFERTILITY

Surgical treatments for infertile men

Although intracytoplasmic sperm injection (ICSI) has changed the field of infertility substantially, there is still a very important role for other surgical methods in the treatment of infertile men. Varicocelectomy continues to be a mainstay for correction of abnormal semen parameters in men with a clinical varicocele, but the operation is not 100% successful. Grober and colleagues[1,2] reviewed the question of whether reoperation in those men with recurrent or persistent varicoceles is a worthwhile approach. Of the 1,400 varicocelectomies performed over 10 years, 54 men returned with persistent or recurrent varicoceles. Using a subinguinal, microsurgical approach, the authors noted an improvement in semen parameters, serum testosterone levels, and testicular volume without considerable complications. The authors concluded that retreatment of recurrent or persistent varicoceles is worth undertaking.

Another perplexing problem during vasectomy reversal is what to do when whole sperm are not seen intraoperatively. Sigman[2] examined this question, comparing outcomes after reversal to intravasal sperm quality and found an overall patency rate after reversal of 98%. Lowest patency rates were in the group with heads of sperm as the only component seen and these rates were 95%. Patency rates when whole sperm were seen were 100%. Dr Sigman concluded that vasectomy reversal should be performed if any sperm parts are noted intraoperatively and excellent patency rates should be expected.

Received May 15, 2005; Accepted May 16, 2005.
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Issues associated with assisted reproduction

Use of ICSI has led to many questions about whether results differ depending on the area of sperm harvest, whether frozen or fresh sperm are used, and whether genetic risks are increased over other assisted reproductive methods. Nicopoullos and coauthors[3] found that outcomes were similar regardless of whether sperm was extracted from the testis or the epididymis and regardless of whether fresh or frozen sperm were used. This information can lead to more flexibility for the urologist obtaining sperm from either the testis or epididymis and using frozen or fresh sperm with similar outcomes, potentially negating the need to have the spouse available with the husband at the time of sperm harvest. Lathi and Milki[4] compared the rate of aneuploidy in miscarriages after ICSI to that of traditional in vitro fertilization procedures. They analyzed the products of conception of 59 women who underwent uterine curettage after missed abortions. They noted substantially higher aneuploidy rates in the ICSI abortuses. This is another of a growing number of articles suggesting that ICSI should be used with caution and treating the underlying male reproductive pathology when possible is preferable to simply obtaining sperm for use in ICSI.

MALE VOIDING DYSFUNCTION AND INCONTINENCE

Data reviewing results of laser enucleation or vaporization of the prostate as a treatment for lower urinary tract obstruction continued to grow throughout the last year. Montorsi and associates[5] studied 100 consecutive patients comparing holmium laser enucleation to transurethral resection of the prostate in a prospective randomized study. Urodynamic studies and symptom scores were obtained before and at intervals after the procedures. The authors reported that holmium laser enucleation and transurethral resection of the prostate were equally effective for relieving symptomatic obstruction.

ISSN 1072-7515/05/$30.00
doi:10.1016/j.jamcollsurg.2005.05.017

Abbreviations and Acronyms

BMI = body mass index
CPPS = chronic pelvic pain syndrome
ED = erectile dysfunction
IC = interstitial cystitis
ICSI = intracytoplasmic sperm injection
IL = interleukin
SUI = stress urinary incontinence
VEGF = vascular endothelial growth factor

Holmium laser enucleation was associated with shorter catheterization times and hospital stays and complications were similar at 1 year. Te and associates[6] and Reich and associates[7] reported their results with the 80-W potassium-titanyl-phosphate laser in the treatment of lower urinary tract obstruction associated with benign prostatic hyperplasia. Both studies reported that the 80-W potassium-titanyl-phosphate laser provided effective relief of lower urinary tract symptoms with notable symptomatic improvement, minimal blood loss, and few complications. Longer followup will be required to validate longterm clinical efficacy.

Although morbidities from definitive therapies for treatment of localized prostate cancer have continued to decline, patients continue to experience incontinence (principally stress incontinence) after definitive treatment. Samli and Singla[8] reviewed results of bone-anchored male slings using absorbable and nonabsorbable grafts for treatment of stress incontinence after radical prostatectomy. Thirty-nine men underwent treatment, 12 using absorbable and 27 using nonabsorbable material.

Results were superior using nonabsorbable grafts (silicone-coated polypropylene mesh) with a mean followup of 28.8 months and a 96.2% success rate. No major complications were reported and a marked improvement in number of pads saturated per day was recorded postoperatively.

FEMALE VOIDING DYSFUNCTION AND INCONTINENCE

During the last decade there have been multiple efforts to identify therapeutic alternatives to anticholinergics in treatment of detrusor overactivity. Intravesical resiniferatoxin and botulinum-A toxin detrusor injections represent new therapeutic options for patients who do not respond or cannot tolerate standard anticholinergic regimens. Giannantoni and colleagues[9] performed a randomized study comparing the two toxins in 25 spinal cord-injured patients with detrusor overactivity recalcitrant to anticholinergic therapy. Clinical and urodynamic results revealed fewer incontinent episodes, a decrease in detrusor overactivity, and no local side effects. Botulinum-A toxin proved superior to resiniferatoxin. Flynn and associates[10] confirmed these results using 150 U of botulinum-A toxin in patients with severe urge incontinence. After injection, evaluations were performed at intervals up to 6 months after operation and urodynamics were performed at 6 weeks and 3 months. Urge incontinence decreased more that 50% at all time intervals up to 3 months. The authors conclude that this is an effective therapy for urge incontinence for 3 months after injection, but additional studies were needed to determine ideal dose, dosing interval, and cost-effectiveness.

Stress urinary incontinence (SUI) continues to be a major problem for women after childbirth. Groutz and associates[11] reviewed the controversial question of whether cesarean section prevents development of postpartum SUI. Three hundred sixty-three women who had undergone spontaneous vaginal delivery, elective cesarean section, or cesarean after obstructed labor were compared. Prevalence of SUI was the same after vaginal delivery or cesarean section after obstructed labor. Elective cesarean section was associated with much lower rates of SUI, suggesting a pelvic-floor injury early in the course of labor. The authors call for additional studies to establish prepartum risk models to help minimize the potential for childbirth-induced pelvic-floor injuries.

Recently, tension-free vaginal tape has become an increasingly popular, minimally invasive method for correction of SUI. Many studies report excellent results with few complications. Abouassaly and colleagues[12] analyzed the complications of tension-free vaginal tape operations from six institutions composed of community and university hospitals in the province of Quebec, Canada. Intraoperative complications included bladder perforation (5.8%) and estimated blood loss $>$ 500 mL (2.5%). Early postoperative complications included urinary retention (19.7%), pelvic hematoma (1.9%), and wound infection (0.4%). Late complications included de novo urgency, suprapubic discomfort, and intravaginal tape erosion in 15%, 7.5%, and 0.4%, respectively. These results are higher than previously reported but the multi-institutional review of both academic and com-