Is There an Increased Risk of Secondary Malignancy After EBRT?

The Rate of Secondary Malignancies After Radical Prostatectomy Versus External Beam Radiation Therapy for Localized Prostate Cancer: A Population-Based Study on 17,845 Patients.

Bhojani N, Capitanio U, et al:

Int J Radiat Oncol Biol Phys 2010; 76 (February 1): 342-348

Potential risks in treating localized prostate cancer with external beam radiotherapy may include an increased incidence of secondary malignancy.

Objective: To determine whether external beam radiotherapy (EBRT) leads to secondary malignancies in patients undergoing treatment for localized prostate cancer.
Design/Participants: Population-based, longitudinal cohort study of French Canadian prostate cancer patients treated with either radical prostatectomy (RP) or EBRT from 1983 to 2003.
Methods: End points were secondary bladder, lung, or rectal cancer seen after 60 months and 120 months.
Results: 8455 RP patients were compared to 9390 EBRT patients. When adjusted for age, comorbidity index, and year of treatment, incident cases of rectal, lung, and bladder cancer were all more prevalent after EBRT at ≥5 years. After ≥10 years, only lung cancer was statistically more prevalent.
Conclusions: Depending on the timing of data, there may or may not be an increased risk of secondary cancers after EBRT for prostate cancer.
Reviewer's Comments: The occurrence of secondary malignancy after EBRT for prostate cancer has been studied in a number of prior conflicting publications. The current study explores this question in a large cohort of French Canadian patients enrolled in the Quebec Health Plan. These patients may represent a slightly different genetic makeup than patients in an American cohort. The authors studied 17,845 men who underwent either EBRT or RP between 1983 and 2003. Men who underwent EBRT were significantly older and had higher comorbidity scores, so these factors were adjusted for in the analysis, as was year of treatment. Two timeframes were assessed. First, after 5 years, all new cases of bladder, lung, and rectal cancers were assessed. There were 3.9%, 5.2%, and 2.4% more of each type, respectively, in the EBRT cohort. Expressed as the "number needed to harm," these numbers would translate to 1 in every 26 patients getting EBRT having an increased risk for secondary bladder cancer, 1 in every 19 patients for lung cancer, and 1 in every 42 for rectal cancer. Interestingly, when data were assessed after only ≥10 years, there was no longer a significant increase in new bladder or rectal cancer, but only lung cancer. The number needed to harm with EBRT for new lung cancer was 1 in every 45 patients for this assessment. The question is how long do we expect it to take for a secondary cancer to present if it is radiation induced? If it could present within 5 years, then the earlier data are what we should believe. If we think such cancers would not form for at least 10 years, we should believe the later data. There is no clearcut answer here, so ultimately each practitioner should use these data how they see fit. Patients should know the risk may exist, but the data are not clear. (Reviewer-Steven E. Canfield, MD).

Keywords: Radical Prostatectomy vs External Beam Radiation Therapy, Secondary Malignancy

Print Tag: Refer to original journal article

Consider Gemcitabine for Recurrent Superficial TCC

Randomized Phase III Trial on Gemcitabine Versus Mytomicin [sic] in Recurrent Superficial Bladder Cancer: Evaluation of Efficacy and Tolerance.

Addeo R, Caraglia M, et al:

J Clin Oncol 2010; 28 (February 1): 543-548

Gemcitabine should be considered over mitomycin for treatment of patients with superficial transitional cell carcinoma who have failed bacille Calmette-Guèrin.

Objective: To compare gemcitabine (GEM) and mitomycin C (MMC) in patients with recurrent superficial bladder cancer to determine which treatment results in better preventive outcomes.
Design: Randomized controlled trial.
Participants/Methods: 109 patients with recurrent, refractory superficial transitional cell carcinoma (TCC) were randomized, comparing 6 weeks of GEM to 4 weeks of MMC, with 10 monthly maintenance doses per arm.
Results: After a median follow-up of 36 months, 72% of GEM patients and 61% of MMC patients were free of recurrence. Progressions and toxicity were also lower with GEM.
Conclusions: Efficacy and toxicity of GEM were better than those of MMC for refractory superficial TCC.
Reviewer's Comments: Bacille Calmette-Guèrin (BCG) remains the gold standard first-line intravesical treatment for superficial bladder cancer. Unfortunately, many patients will fail to respond initially or will recur later. There are many strategies to address these recurrences. This study focused on 2 agents for recurrent bladder cancer: MMC and GEM. Most patients included had failed an initial course of BCG, and a few patients in whom BCG was initially contraindicated had failed a course of epirubicin. Methodological flaws include no accounting for the process of randomization or allocation, no blinding, and no information on the power of the study, which can all introduce bias to the results. However, patient demographics were equal between groups, so it appears that the randomization worked well. After a median of 36 months, 28% of GEM patients recurred compared to 39% of MMC patients; median time to recurrence was 15 months with MMC, while it was not reached for GEM. In patients who did recur, fewer progressed in the GEM arm as well. Finally, toxicity was far less common in the GEM arm, with overall toxicities of 39% versus 72% in the MMC arm. Both chemical cystitis and dysuria were statistically significantly worse with MMC. The results are compelling for 2 reasons. First, despite some flaws with methodology and reporting in this publication, these results are confirmed by a number of other recent studies. Second, the improved toxicity profile makes use of GEM compelling, even if there were no significant differences in efficacy. This paper serves to strengthen our understanding for use of gemcitabine in refractory superficial TCC. This regimen should be strongly considered for patients with refractory, recurrent disease, especially if they are not good candidates for cystectomy. (Reviewer-Steven E. Canfield, MD).

Keywords: Bladder Cancer, Gemcitabine, Mitomycin C

Print Tag: Refer to original journal article

Active Stone Retrieval During Ureteroscopy Leads to Fewer Problems Later

Randomized Trial of Stone Fragment Active Retrieval Versus Spontaneous Passage During Holmium Laser Lithotripsy for Ureteral Stones.

Schatloff O, Lindner U, et al:

J Urol 2010; 183 (March): 1031-1036

Active stone fragment retrieval during ureteroscopy for ureteral stones should be done when possible to prevent future unplanned medical visits.

Objective: To determine whether allowing spontaneous passage of small fragments is different from complete intraoperative extraction during semirigid ureteroscopy for ureteral stones.
Design: Prospective randomized study.
Participants: 60 patients undergoing semirigid ureteroscopy with holmium laser lithotripsy for ureteral stones.
Methods: Patients were randomized to intraoperative fragment retrieval (group 1) or lithotripsy with spontaneous fragment expulsion (group 2). Primary outcome was differences in unplanned medical and emergency department visits. Additional outcomes included rehospitalization, pain analgesia, time to complete recovery, and 30-day stone-free rates.
Results: Group 2 had a higher rate of unplanned visits (30% vs 3%), a trend toward higher rates of rehospitalization (10% vs 0%), need for ancillary procedures (7% vs 0%), and a lower stone-free rate (87% vs 100%). Complications were similar in short-term follow-up.
Conclusions: Not actively retrieving fragments during semirigid ureteroscopy and holmium laser lithotripsy is associated with a higher risk of unplanned medical visits than is complete intraoperative extraction. Spontaneous expulsion also shows a tendency toward higher rates of rehospitalization, residual stones, and need for ancillary procedures.
Reviewer's Comments: This very nice prospective randomized study was designed to determine if patients benefit from having active stone retrieval during semirigid ureteroscopy for ureteral stones. It seems logical that patients with complete stone extraction would have fewer unplanned visits, but the issue has never been well addressed in previous studies. The conclusions of the article do indeed show that patients undergoing spontaneous fragment expulsion had higher unplanned medical visits and higher rates of residual stone. So, why not actively retrieve stones and do complete stone extraction? Well, actively retrieving stones can be tedious and can lead to longer operative times. Many also worry about causing additional trauma by repeated insertion and removal of the ureteroscope. However, as this study shows, if one does not actively pursue fragments, patients don't do as well. It is likely the result of leaving larger fragments than estimated, leaving unseen fragments behind dust, or the proximal migration of fragments into the renal pelvis that are large and not visualized. About the only time I don't actively retrieve fragments is when the ureter is narrow or edematous and won't allow easy repeated passage of the scope. Otherwise, I believe the goal should be to remove all significant fragments and render the patient stone free at the conclusion of the procedure. (Reviewer-David A. Duchene, MD).

Keywords: Ureter, Laser Treatment, Ureteroscopy, Holmium Lasers

Print Tag: Refer to original journal article

Urolithiasis Prevalence Higher Than Previously Reported in Asymptomatic Adults

Prevalence of Urolithiasis in Asymptomatic Adults: Objective Determination Using Low Dose Noncontrast Computerized Tomography.

Boyce CJ, Pickhardt PJ, et al:

J Urol 2010; 183 (March): 1017-1021

There is approximately an 8% prevalence of urolithiasis that exists in asymptomatic adults.

Objective: To determine the true prevalence of urolithiasis in asymptomatic adults.
Design: Retrospective chart review.
Participants: 5047 adults undergoing low-dose non-contrast CT between 2004 and 2008 for routine CT colonography screening.
Methods: Presence, size, and location of urinary calculi were recorded. Screening prevalence and incidence of symptomatic stone disease during a 10-year interval (1997 to 2007) were compared against previously established clinical risk factors.
Results: The screening prevalence of asymptomatic urolithiasis was 7.8%. An average of 2.1 stones per case (range, 1 to 29) and a mean stone size of 3.0 mm (range, 1 to 20) were discovered. During a 10-year period, 20.5% of patients with stones (1.6% of screening population) had at least 1 symptomatic episode. Males were more likely than females to have urolithiasis (9.7% vs 6.3%; P <0.001). Diabetes, obesity, and age ≥60 years did not affect prevalence. Diabetes and obesity did correlate with symptom development (P <0.001 and P <0.05, respectively).
Conclusions: In this population-based assessment of a large asymptomatic cohort in the Midwest showed an 8% prevalence of urolithiasis. Most cases were unsuspected and remained asymptomatic. Males had a higher prevalence. Diabetes and obesity did not increase prevalence but were associated with a higher incidence of symptoms over time.
Reviewer's Comments: This study is a well-designed look at the true prevalence of asymptomatic urolithiasis and the incidence of developing symptomatic disease in patients with urolithiasis. A low-dose non-contrast CT scan protocol was used as part of a CT colonography regimen to evaluate for extracolonic disease in patients undergoing colonoscopy. The findings suggest that 8% of individuals undergoing CT screening have urolithiasis. One weakness of the study is that it was performed in a colonoscopy screening age population in the Midwest. However, the prevalence of stone disease correlates nicely with other studies attempting to predict urolithiasis. The one statistic that this study provides that no other study has evaluated is the 20% incidence of symptomatic disease in patients with known asymptomatic urolithiasis over a 10-year period. This is much lower than the 50% of patients who have stone recurrences within 10 years after 1 previous stone episode. The findings call into question how aggressive we need to be with incidentally discovered stones and/or if patients with abdominal pain and the findings of small stones can attribute any of their abdominal pain to urolithiasis. Most of these patients in the study only had 1- to 2-mm stones on CT scan. Patients with larger and more numerous stones and those with co-existing risk factors for stones probably need to be followed closely and treated appropriately. Overall, this study gives us good numbers to remember and with which to counsel patients. (Reviewer-David A. Duchene, MD).

Keywords: Prevalence, Urolithiasis, Calculi, CT, Risk Factors

Print Tag: Refer to original journal article

LPN for Larger Tumors Is Feasible, but More Complications Are Noted

Laparoscopic Partial Nephrectomy for Tumors Larger Than 4 cm: A Comparative Study.

Lifshitz DA, Shikanov SA, et al:

J Endourol 2010; 24 (January): 49-55

Laparoscopic partial nephrectomy for tumors >4 cm is feasible but is associated with a higher complication rate compared to these techniques performed for tumors <4 cm.

Objective: To compare perioperative and functional outcomes after laparoscopic partial nephrectomy (LPN) in patients with renal tumors.
Methods: These data were collected from a prospectively maintained database consisting of 2 groups of patients who underwent LPN: 149 patients with renal tumors <4 cm and 35 with tumors >4 cm.
Results: Comparisons of demographic data and tumor characteristics between groups showed no significant differences, except for a median renal mass size of the smaller tumor group at 2.3 cm and the larger tumor group at 4.5 cm. The surgical technique was standard but involved various forms of hilar control throughout the data collection period. Comparisons of intraoperative and postoperative data between groups showed no significant differences, including warm ischemia time, estimated blood loss, and operative time. Comparisons of intraoperative complications between groups showed no significant differences, but the proportion of postoperative complications in the group with tumors >4 cm was 26% compared to 12% in the group with tumors <4 cm. All 3 urinary leaks occurred in the larger tumor group, while no leaks occurred in the smaller tumor group. All leaks resolved with conservative management with or without a stent. Final pathologic evaluation revealed malignant lesions in 79% and 77% of the smaller and larger tumor groups, respectively. The positive margin rate in the smaller tumor group was 3% compared to 7% in the larger tumor group, which was statistically insignificant. The median estimated creatinine clearance was 86 mL/minute in the smaller tumor group and 84 mL/minute in the larger tumor group, but the mean decline was more than twice as high in the larger tumor group. In a multivariate analysis, tumor size >4 cm remained the only predictor of long-term renal function decline, even after adjusting for warm ischemia time, comorbid factors, and clamping technique.
Reviewer's Comments: Most LPNs for tumors >4 cm were performed later in the authors' series, after extensive experience was gained on smaller tumors. It is somewhat expected that the complication rate might be higher for these larger tumors that encroach centrally to involve the collecting system and large renal vessels as suggested by the current article. The positive surgical margin rate for tumors >4 cm in this series correlates with open partial nephrectomy margin rates. The current paper shows that LPN is a good option in expert hands. The question of whether these larger tumors should be approached with a laparoscopic, open, or robotic-assisted approach still remains unanswered. (Reviewer-Kyle J. Weld, MD).

Keywords: Larger Renal Tumors, Laparoscopy, Partial Nephrectomy

Print Tag: Refer to original journal article

Partial Nephrectomy Use for RCC Remains Low in Elderly Patients

Unintended Consequences of Laparoscopic Surgery on Partial Nephrectomy for Kidney Cancer.

Abouassaly R, Alibhai SM, et al:

J Urol 2010; 183 (February): 467-472

The introduction of laparoscopic radical nephrectomy coincides with decreased use of partial nephrectomy for renal cell carcinoma.

Objective: To examine whether the introduction of laparoscopic radical nephrectomy contributes to low partial nephrectomy use with time.
Design/Participants: Retrospective study using data from 7830 patients who underwent renal surgery for malignant tumors in Ontario, Canada, between 1995 and 2004.
Methods: The Canadian classification codes were adjusted in January 2002 to distinguish those procedures performed laparoscopically. Therefore, procedures prior to January 2002 were classified as open radical or open partial nephrectomy. Because only 49 laparoscopic partial nephrectomies were performed from 2002 to 2004, the laparoscopic and open partial nephrectomies performed after 2002 were combined into a single partial nephrectomy group.
Results: In total, 90% of all cases throughout the study period were radical nephrectomies. There was an increase in partial nephrectomy use with time from 5.5% of renal surgeries in 1995 to 14.4% in 2002 such that the odds of partial nephrectomy increased by 18.0% per year before January 2003. After 2003, the odds of partial nephrectomy subsequently decreased by 12% per year. Starting when the laparoscopic codes were first available in 2002, the number of laparoscopic cases increased substantially through 2004 with 26% of the radical nephrectomies performed laparoscopically. The mean tumor size was not significantly different throughout the study. Also, patients who underwent partial nephrectomies were significantly younger than those undergoing radical nephrectomies.
Conclusions: Partial nephrectomy use for renal cell carcinoma (RCC) remains low, particularly in elderly patients. The introduction of laparoscopic radical nephrectomy coincided with decreased uptake and use of partial nephrectomy for RCC. Although it was hypothesized previously, to our knowledge this is the first study to suggest that the introduction of laparoscopy in renal surgery has negatively impacted partial nephrectomy use.
Reviewer's Comments: Although previous studies have suggested that partial nephrectomy remains underutilized, I commend the authors on presenting this broad view of population treatment trends to give a better reflection of the overall urological practice for the study area. The study shows that the introduction of laparoscopy for renal surgery coincided with the decreased use of partial nephrectomy. Since partial nephrectomies are associated with equivalent oncological outcomes and renal function preservation and recent data suggest that partial nephrectomies are linked to better survival compared to radical nephrectomies, this paper raises the question of why partial nephrectomies are being performed less often. In fact, the AUA's clinical guidelines on small renal masses encourage partial nephrectomy when technically feasible instead of radical nephrectomy. However, the use of partial nephrectomy is low relative to the overall treatment of small renal masses and seems to be decreasing. Radical nephrectomy is technically easier, less time-consuming, and commonly thought to be associated with fewer complications than partial nephrectomy, though as we are learning, long-term morbidity and mortality may actually favor partial nephrectomy. (Reviewer-Kyle J. Weld, MD).

Keywords: Laparoscopy, Renal Tumors, Nephrectomy

Print Tag: Refer to original journal article

Women With Pelvic Floor Dysfunction Use CAM More Frequently Than Those Without

Complementary and Alternative Medicine (CAM) Use in Women With Pelvic Floor Disorders: A Cohort Study.

Slavin SL, Rogers RG, et al:

Int Urogynecol J Pelvic Floor Dysfunct 2010; 21 (April): 431-437

Further examination of the efficacy of specific alternative forms of complementary and alternative medicine is warranted so urogynecology patients may be offered a variety of treatment options in addition to conventional therapy.

Objective: To compare complementary and alternative medicine (CAM) use between women presenting for routine gynecologic care and those presenting to specialty urogynecology clinics.
Participants/Methods: Women presenting to 2 specialty gynecology clinics and a general gynecology clinic at the University of New Mexico Health Science Center were included in this report. Data were available on 340 patients overall, including 237 urogynecology and 103 gynecology patients.
Results: Urogynecology patients were more likely to report moderate to severe urinary incontinence as compared with gynecology patients (36.7% vs 18.5%; *P* =0.04). Increasing age was independently associated with increased CAM use. Women who reported that they had tried previous treatment used higher rates of CAM than women who had not tried previous treatment (59.6% vs 32.6%; *P* <0.001). Women who had used medications (56.5% vs 39.7%; *P* =0.02) and physical therapy (61.4% vs 40.7%; *P* =0.006) were more likely to use CAM. Previous surgery was not associated with increased CAM use when controlling for baseline differences between patients. Ethnicity, income, education level, menopausal status, and marital status did not predict CAM use. Urogynecology patients identified specific herbal supplements with increased frequency compared to gynecology patients (29.1% vs 6.8%; *P* =002).
Conclusions: Patients who had moderate to severe urinary incontinence used CAM at similar rates as women who reported slight urinary incontinence. Patients who reported pelvic organ prolapse also used CAM at similar rates. However, women with fecal incontinence used CAM more frequently than women without fecal incontinence (58.5% vs 41.8%; *P* =0.04).
Reviewer's Comments: The strength of this particular study is the fact that the authors used a comparative group of patients who presented for routine gynecologic care, while a weakness of the study includes the lack of physical examination to confirm questionnaire findings. (Reviewer-Karl J. Kreder, MD).

Keywords: Complementary & Alternative Medicine, Pelvic Floor Disorders

Print Tag: Refer to original journal article

Obese Women Have Worse Incontinence Severity, Higher VLPP

The Impact of Obesity on Urinary Incontinence Symptoms, Severity, Urodynamic Characteristics and Quality of Life.

Richter HE, Kenton K, et al:

J Urol 2010; 183 (February): 622-628

Obese women with stress urinary incontinence have worse objective and subjective measures of incontinence severity compared to normal weight women.

Objective: To compare urinary incontinence severity measures and the impact of stress urinary incontinence among obese, overweight, and normal weight women planning to undergo stress urinary incontinence surgery.
Participants/Methods: Patients included in this analysis came from 2 trials sponsored by the Urinary Incontinence Treatment Network. The first trial (SISTEr) randomized 655 subjects to Burch colposuspension or autologous rectus fascial sling for urinary incontinence. The second trial (TOMUS) randomized 597 subjects to polypropylene mid-urethral sling using a retropubic or transobturator approach. The WHO definitions of body mass index (BMI) were used to define weight groups. Demographic variables included age, race, ethnicity, education, marital status, and occupational score. Other variables that were analyzed included height, weight, POP-Q parameters, Q-tip test, pelvic floor muscle strength, 24-hour pad weight, and incontinence episode frequency. Subjective measures included the Urinary Distress Inventory, Incontinence Impact Questionnaire, and the MESA questionnaire.
Results/Conclusions: The mean age of patients in both trials was approximately 52 years. Generally, obese women were more likely to smoke and less likely to use hormonal therapy. Obese women had poor scores on all 3 measures of incontinence severity and impact. In both trials, obese women experienced more incontinence episodes, higher symptoms of stress, and higher Valsalva leak point pressures (VLPP), and had greater symptom-specific impact on quality of life.
Reviewer's Comments: It is interesting that obese women had worse incontinence severity but higher VLPP. Some have speculated that obese women may rely on greater muscle contraction and force at rest to remain continent, thereby recruiting a significant portion of the motor units in the sphincter to maintain continence at rest. Therefore, when a stress event occurs they may be unable to recruit any additional motor units and therefore have urinary leakage. While this is an interesting hypothesis, it is going to take more study to confirm whether this is indeed true. (Reviewer-Karl J. Kreder, MD).

Keywords: Obesity, Urinary Incontinence, Stress, Urodynamics

Print Tag: Refer to original journal article

Research Continues in Understanding Genetics of Infertility

The Genetic Causes of Male Factor Infertility: A Review.

O'Flynn O'Brien KL, Varghese AC, Agarwal A:

Fertil Steril 2010; 93 (January): 1-12

Microarrays of gene expression, protein expression, and cell metabolites are promising approaches for identification and treatment of genetic abnormalities in male infertility.

Background: Male infertility is a common disorder with a diverse etiology.
Objective: To comprehensively review the current understanding of genetic factors of infertility and techniques used to expand the body of knowledge in this area.
Methods: PubMed was used to select 40 articles published in the last 3 years with keywords "genetics" and "male infertility."
Results: Chromosomal abnormalities including aneuploidy (incorrect chromosomal number) are a common cause of infertility and are present in 5% of males with infertility. Klinefelter syndrome, the most common abnormality caused by aneuploidy in this population, is present in 5% of men with oligozoospermia and 10% with azoospermia. This disorder may be mosaic or nonmosaic, with 25% of men with the nonmosaic variant having sperm in the ejaculate. The Y chromosome abnormalities are of particular interest because microdeletions are always passed on to male carriers when using assisted reproductive techniques (ART). The azoospermia factor (AZF) region of the Y chromosome is responsible for sperm growth and consists of 3 areas--AZFa, AZFb, and AZFc. Deletions of multiple genes at any of these locations will cause azoospermia. Microdeletions at area AZFc may result in varying phenotypes from azoospermia to normal sperm production. Autosomal gene mutations can cause male infertility in a variety of ways from anatomic abnormalities to receptor defects and enzyme deficiencies that affect spermatogenesis. The *CFTR* gene is one of the most widely studied and mutations lead to obstructive azoospermia through the absence of vas deferens. X-linked gene mutations have been implicated in such syndromes such as androgen insensitivity and Kallman syndrome. Epigenetic errors are defects that affect the development of sperm or embryo without defects in the DNA sequence. Errors in the sperm centrosome, chromatin packaging, histone markers, telomere shortening, and imprinting have been implicated in this area of research.
Conclusions: New technologies currently being developed will aid in the study of genetic and epigenetic abnormalities as well as more effective treatment strategies.
Reviewer's Comments: The importance of understanding the genetic causes for infertility stem from the fact that we can now bypass inherent barriers to reproduction through IVF-ICSI. The vast majority of babies born through IVF-ICSI are normal as fertilization, implantation, and maturation of the embryo still require a minimum level of normality of DNA. However, the prevalence of aneuploidy in sex chromosomes (0.6% vs 0.2%) and autosomal chromosomes (0.4% vs 0.07%) is higher in ICSI children. Thus, the importance of incorporating genetic counselors into ART regimens remains paramount. New technologies are being developed with further understanding of genetic causes of male infertility. Microarrays of gene expression, protein expression, and cell metabolites may be used in the future to identify genetic abnormalities and develop individually tailored treatment strategies for male infertility (Reviewer-Tobias S. Kohler, MD, MPH).

Keywords: Genetic Causes, Male Factor

Print Tag: Refer to original journal article

Cryopreservation Has Negative Impact on Sperm DNA

Effects of Cryopreservation on Human Sperm Deoxyribonucleic Acid Integrity.

Zribi N, Chakroun NF, et al:

Fertil Steril 2010; 93 (January): 159-166

Cryopreservation is an invaluable resource but does result in some degradation of sperm quality.

Background: Use of cryopreserved sperm for future fertility is increasing due to successful advances in other fields, such as cancer treatment. Quantifying sperm damage from cryopreservation, such as DNA fragmentation or DNA oxidation, is an important step in optimizing this process.
Objective: To determine how cryopreservation affects sperm motility and viability, and to assess sperm DNA fragmentation and oxidation.
Participants: 15 men (5 with normal semen and 10 with abnormal semen) aged 29 to 47 years undergoing infertility testing before and after cryopreservation in liquid nitrogen.
Methods: Semen samples were obtained via masturbation. Specimens were cryopreserved for 7 days using standard procedure. Basic semen parameters, sperm DNA fragmentation, and DNA oxidation levels were assessed before and after cryopreservation. The TUNEL assay and the OxyDNA kit were used to measure sperm DNA fragmentation and sperm DNA oxidation, respectively.
Results: Sperm motility and viability decreased significantly following cryopreservation. Prior to freezing, abnormal semen contained higher sperm DNA fragmentation levels. However, after cryopreservation/thaw, all sperm demonstrated increased levels of DNA fragmentation (33.1% vs 21.3%). Sperm DNA oxidation levels demonstrated significant increases after freezing in all specimens (16.3% vs 14.5%) but showed no difference between normal and abnormal semen.
Conclusions: Cryopreservation has a negative impact on sperm DNA from both fragmentation and oxidation perspectives. Based on these results and existing literature, unlike DNA oxidation, sperm DNA fragmentation likely occurs due to causes other than oxidative stress, such as apoptotic or DNA repair enzymatic activation.
Reviewer's Comments: Cryopreservation of sperm is a luxury that permits genetic offspring through assisted reproductive techniques (ART), even several years after freezing. A perfect freezing protocol would allow harvest of all initially frozen sperm, but this is clearly not the case. This being said, the best results from ART cycles between fresh and frozen, or epididymal and testicular sperm, are hotly debated, but many studies say success rates are equal. Factors including in vitro fertilization (IVF) lab comfort level working with certain types of tissue and the practicality of synchronizing male and female components of an IVF cycle are probably more important. Sperm attrition from cryopreservation occurs for a variety of reasons, one of which includes sperm being stuck to the inside of the freezing container. In men with normal counts, this is less of an issue, going from 70 to 65 million sperm does not typically affect results. Where the results of this study are particularly important is in men with severe oligospermia or cryptoazoospermia where every sperm counts. An improved cryopreservation technique to preserve an extremely small number of sperm (10 to 20) without degrading their quality is one of the many "holy grails" of infertility. In cases where this applies, having donor sperm as a backup is critical. In cases of an extremely low number of sperm or those of questionable quality, some couples choose to mix donor sperm with their own in ART cycles. (Reviewer-Tobias S. Kohler, MD, MPH).

Keywords: Sperm Cryopreservation, Sperm DNA

Print Tag: Refer to original journal article

Minimal Exercise Program Can Improve Quality of Life in Men on ADT

Combined Resistance and Aerobic Exercise Program Reverses Muscle Loss in Men Undergoing Androgen Suppression Therapy for Prostate Cancer Without Bone Metastases: A Randomized Controlled Trial.

Galvão DA, Taaffe DR, et al:

J Clin Oncol 2010; 28 (January 10): 340-347

Combining aerobic and resistance exercise can reduce side effects in men on androgen deprivation therapy.

Objective: To test the impact of combining resistance and aerobic exercise programs twice a week with supervised sessions in men on androgen deprivation therapy (ADT) for >2 months.
Design: Randomized 12-week clinical trial.
Participants/Methods: 57 men on ADT for prostate cancer without bone metastases were assigned to aerobic plus resistance exercise (n=29) or to usual care (n=28).The primary end point was whole body and lean mass, and secondary end points included muscle strength/function, cardiorespiratory impact, blood marker, and quality-of-life outcomes. The exercise regimen consisted of twice-a-week meetings for 12 weeks and included a total of 8 resistance exercises that impacted the upper and lower body with 2 to 4 sets per exercise, and the aerobic component consisted of 15 to 20 minutes of cardiovascular work (cycling and walking/jogging) at 65% to 80% maximum heart rate.
Results: Only 1 withdrawal took place in the exercise group, with no side effects. Patients in the exercise group had significant benefits in all the following parameters compared to the usual care group: increase in total body lean muscle mass (*P* =0.047), upper limb (*P* <0.001), lower limb (*P* =0.019), muscle strength (*P* <0.01), aerobic endurance and balance (*P* =0.04), general health (*P* =0.022), fatigue reduction (*P* =0.021), and reduced blood levels of C-reactive protein (*P* =0.008), but no significant differences in the Short Form-36 mental health composite score (*P* =0.639).
Conclusions: A brief, twice-a-week regimen of aerobic and resistance exercise can significantly improve a variety of physical health and quality-of-life parameters in patients on ADT.
Reviewer's Comments: The party is over and the skinny (note: politically correct opposite and gender equivalent word selection alert) lady (or man) has sung! Do we really need more of these studies on aerobic and/or resistance exercise for more proof that this should be part of the standard treatment of men on ADT?! This is getting silly! Men with prostate cancer, and especially those on ADT, need to be told to engage in aerobic and resistance exercise at least 2 to 3 days a week. The results or benefits noted in this trial were similar to those achieved in past studies of men not on ADT. However, more work is needed on improving mental health in these men. Anyhow, there is still such a ridiculous focus on so many prescription medications for patients with side effects of ADT (drug for a drug side effect-wow what a medical advance), but I am also curious as to why some of these researchers from these past studies do not seem very excited to test these side effect expensive medications against intensive lifestyle changes (rhetorical question and sarcasm alert). The reason is that they would lose or just not win (same outcome). (Reviewer-Mark A. Moyad, MD, MPH).

Keywords: Muscle Loss, Men, Androgen Suppression Therapy, Exercise Programs

Print Tag: Refer to original journal article

Weight Loss Dietary Supplements Have History of Being Heart Unhealthy

Hepatotoxicity Due to Hydroxycut: A Case Series.

Fong TL, Klontz KC, et al:

Am J Gastroenterol 2010; January 26 (): epub ahead of print

Hydroxycut dietary supplements actually caused liver failure in some previously healthy individuals.

Objective: To summarize the evidence through a U.S. case series of patients that may have developed liver injury from this specific Hydroxycut dietary supplement.
Design/Methods: A case series of 8 patients that developed liver injury after using Hydroxycut treated at separate medical centers in the U.S. were identified. A total of 9 other cases with adequate clinical data were located from the FDA MedWatch database.
Results: Of 8 patients who experienced liver injury at the different medical centers, all were hospitalized and 3 needed liver transplantation. Of the 9 other cases identified from MedWatch, there was 1 fatal case of acute liver toxicity. The classic symptoms were jaundice, fatigue, nausea, vomiting, and abdominal pain.
Conclusions: Hydroxycut has been found to be a cause of severe liver toxicity that could lead to liver failure and death. Weight loss supplements should be regarded as a potential source of liver injury when no other etiology can be identified.
Reviewer's Comments: Here comes a classic old guy comment in a middle aged man--"do you have any idea how many times over my career I have told someone to discontinue a weight loss supplement and their liver enzymes went back to normal?!" No kidding. Urology, like any other medical discipline is dealing with an obesity epidemic, so it is not unusual for most patients to be currently attempting to lose weight in some manner via lifestyle or supplement ingestion. However, the only supplements that are heart healthy that may support *minor* weight loss are fiber and fish oil (the 2 Fs). Otherwise, if you want more weight loss than a couple of pounds, then a dietary supplement or perhaps prescription drug will act mostly as a stimulant or a toxic agent to other body systems, despite giving someone good acute weight loss. This was the case with 1 form of Hydroxycut (endorsed by some doctors, by the way), which is why this supplement was voluntarily recalled in 2009. However, I know there are other heart unhealthy supplements out there coming to a urology clinic near you! (Reviewer-Mark A. Moyad, MD, MPH).

Keywords: Hydroxycut Dietary Supplement, Liver Toxicity, Liver Failure

Print Tag: Refer to original journal article

Sperm Quality, DNA Fragmentation Improve Following Varicocelectomy

Decreased Sperm DNA Fragmentation After Surgical Varicocelectomy Is Associated With Increased Pregnancy Rate.

Smit M, Romijn JC, et al:

J Urol 2010; 183 (January): 270-274

Increased pregnancy rates following varicocelectomy may be secondary to improved sperm DNA quality.

Background: Varicocele is associated with semen abnormalities, but correlative causation of male infertility has yet to be proved. However, there is increasing evidence demonstrating an association between increased sperm DNA damage and decreased pregnancy rate. Post-varicocelectomy changes in sperm DNA fragmentation and resulting pregnancy rates may provide a link between these factors.
Objective: To prospectively evaluate changes in sperm chromatin structure in infertile patients before and after surgical repair of varicocele, and the impact on pregnancy rate.
Methods: Men with a minimum 1-year infertility history, palpable varicocele, oligospermia, and normal correctable female infertility underwent varicocelectomy. Patients served as their own controls to evaluate changes in standard semen analysis parameters and sperm DNA fragmentation index (DFI) following varicocelectomy. Pregnancy rates, spontaneous and via assisted reproductive techniques (ART), after varicocelectomy were also analyzed. High inguinal ligation was performed for 41 varicoceles, and microsurgical techniques were used for 8 varicocelectomies.
Results: 49 males (41 with primary infertility, 8 with secondary infertility) with a mean age 34 years underwent varicocelectomy. Twenty-eight men had grade II or higher varicocele. Mean sperm count, concentration, and motility significantly increased, while DFI decreased in post-varicocelectomy specimen. In total, 63% demonstrated >50% improvement in sperm concentration, 37% of couples achieved spontaneous pregnancy at a postoperative average of 7 months, 22% of couples achieved pregnancy with ART at 14.6 months after unsuccessful attempts at natural conception, and 24% could not achieve spontaneous pregnancy and decided against ART.
Conclusions: Following varicocelectomy, both sperm parameters and DNA fragmentation demonstrated significant improvement. Low or decreased DFI values are associated with improved pregnancy rates. Based on the study size and relatively high post-varicocelectomy DFI values and considering other reports in the literature, follow-up studies should be performed to confirm these findings.
Reviewer's Comments: In this study we see further compelling evidence for varicocele repair. Only clinically palpable varicoceles were corrected with 63% of the patient population improving per the author's definition of >50% improvement in sperm concentration. Interestingly, those who responded had a statistical improvement in DFI from 35.3% to 28.6% (P = 0.009), and the nonresponders did not show an improvement in DFI (35% to 33%; P =0.602). When looking at those achieving pregnancy with or without ART, DFI was significantly lower than in those who failed to conceive (P =0.033). The spontaneous pregnancy rate within the first year after varicocele repair was 37%, similar to previous trial results. In situations where female factor infertility requires IVF, varicocele repair in men with palpable varicoceles should also be strongly considered, given the data from this study that DNA fragmentation improves, likely ultimately leading to greater ART success. (Reviewer-Tobias S. Kohler, MD, MPH).

Keywords: Varicocele, DNA Fragmentation, Decreased Pregnancy Rate

Print Tag: Refer to original journal article

RALP Not Proven Equivalent, Superior to Other Techniques

Low Quality of Evidence for Robot-Assisted Laparoscopic Prostatectomy: Results of a Systematic Review of the Published Literature.

Kang DC, Hardee MJ, et al:

Eur Urol 2010; January 26 (): epub ahead of print

The current levels and quality of evidence for robotic prostatectomy are not high. When utilizing this technique, the practitioner should not think it has been proven equivalent or superior to other techniques.

Objective: To determine the current level of evidence supporting use of robotic prostatectomy.
Design/Methods: A systematic review of the literature was done to assess the quality of all published studies (in English) up to December 2008 on robotic-assisted laparoscopic radical prostatectomy (RALP).
Results: 75 articles were found meeting criteria from 2001 to 2008. The number of publications tripled from 2005 to 2008 compared to 2001 to 2004. However, the level of evidence and quality did not improve. In total, 75% of studies were case series, and only 3% were randomized trials. Methodology scores were varied but did not improve with time.
Conclusions: The overwhelming majority of current scientific literature on RALP represents lower level evidence of inconsistent methodological quality.
Reviewer's Comments: Assessment of quality in published studies is not subjective. There are specific types of studies needed to answer different scientific questions, and well-established quality indicators for performing and reporting studies, such as the CONSORT and STROBE statements. The adoption of RALP has been extremely fast throughout the world. Marketing has driven this phenomenon to such a degree that practicing urologists often believe it is really a better operation than other approaches. The current study points out through careful consideration of study type and quality that there is currently no evidence to make this claim. The results from observational studies, such as retrospective case-series, may enlighten us about how well men do when selected by and treated by a specific surgeon, but there will be hidden biases in these types of data. RALP is an excellent option for appropriate men with prostate cancer, but practitioners should be aware of the low level of evidence in existence when comparing this approach to others techniques. (Reviewer-Steven E. Canfield, MD).

Keywords: Robotic-Assisted Surgery, Prostate Cancer

Print Tag: Refer to original journal article

Hormones With Brachytherapy May Increase Risk of Dying in Elderly Men

Mortality in Men With Localized Prostate Cancer Treated With Brachytherapy With or Without Neoadjuvant Hormone Therapy.

Dosoretz AM, Chen MH, et al:

Cancer 2010; 116 (February 15): 837-842

In men being treated for localized prostate cancer with brachytherapy, consider age and life expectancy carefully before initiating neoadjuvant hormonal therapy as well.

Objective: To determine the effect of neoadjuvant hormone therapy (NHT) combined with brachytherapy (BT) for localized prostate cancer on all-cause mortality (ACM).
Design: Retrospective study.
Participants/Methods: A cohort of 2474 men who underwent BT with or without NHT was evaluated from a database of 20 centers within a cancer consortium. Analysis for ACM was done stratifying age <73 years versus age ≥73 years and other common prognostic features.
Results: In patients undergoing brachytherapy, 1083 received NHT while 1391 did not. Those receiving NHT had more aggressive clinical and pathological characteristics. Age ≥73 years was a significant risk factor for increased ACM when receiving NHT, with an adjusted hazard ratio of 1.24 (95% CI, 1.01 to 1.53; *P* =0.0369).
Conclusions: Use of NHT with BT may be associated with an increased risk of dying in men age ≥73 years.
Reviewer's Comments: The evidence of survival benefit for hormonal therapy when combined with radiotherapy in intermediate- and high-risk prostate cancer is strong. It is also becoming clear that hormone therapy carries many significant side effects, some of which may ultimately be fatal. Therefore, HT should always be administered with consideration of patient's age, comorbidities, and overall life expectancy, so the therapy itself does not speed death rather than prolong it. The study presented here looked at NHT combined with BT, and suggests that all-cause mortality was significantly greater in men age ≥73 years who had NHT along with BT compared to those men who had BT alone. The survival curves start to split dramatically about 8 years after therapy. Weaknesses of the study include its retrospective nature, and questions about variations in care from the consortium that the database information comes from. For instance, over half of patients with high-risk disease were not given hormone therapy. This suggests that the data are highly selective and the results susceptible to bias. Nonetheless, the results are provocative and timely. They should make the practitioner think twice before prescribing hormonal therapy in this setting. (Reviewer-Steven E. Canfield, MD).

Keywords: Prostate Cancer, Brachytherapy, Hormone Therapy, All-Cause Mortality

Print Tag: Refer to original journal article

Obese BMI Significantly Increases Risk of Kidney Stone Disease

The Association of Increasing Body Mass Index and Kidney Stone Disease.

Semins MJ, Shore AD, et al:

J Urol 2010; 183 (February): 571-575

Once body mass index is >30 kg/m2, further body mass index increases do not significantly increase the risk of stone disease.

Objective: To examine how an increasing body mass index affects the risk of kidney stone disease.
Design: Retrospective chart review.
Methods: Insurance claims from a 5-year period (2002 to 2006) in a national private insurance database were examined. An initial dataset of 95,598 patients was evaluated for kidney stone disease.
Results: 43% of participants were male and 57% were female. Analysis identified 3257 stone formers. Obesity (body mass index [BMI] >30 kg/m2) was associated with a significantly greater likelihood of being diagnosed with a kidney stone. However, when obese patients were further substratified into BMI categories, no significant differences in the likelihood of kidney stone diagnosis developed, suggesting a stabilization of risk once BMI increased >30 kg/m2. The association of BMI and a stone removal procedure was significant for men and women with a BMI between 30 and 45 kg/m2 relative to a BMI of <25 kg/m2.
Conclusions: An obese BMI is associated with an increased risk of kidney stone disease. The magnitude of risk appears to stabilize after 30 kg/m2 so that further increases in BMI in the morbidly obese do not seem to significantly increase additional risk of stone disease.
Reviewer's Comments: This article examines a large insurance database to confirm the findings of others that obesity increases the risk of kidney stone disease. In patients with a BMI of <30 kg/m2, 2.6% were diagnosed with a kidney stone while 4.9% of subjects with a BMI >30 kg/m2 were diagnosed with a kidney stone during the same study period. Several theories of the etiology of increased risk of stone disease have been proposed, but were not able to be evaluated in this insurance claim-based study. This study (as opposed to other studies on the topic) did have large enough numbers to substratify the morbidly obese and actually found that after reaching a BMI of 30 kg/m2, the risk of kidney stone disease stabilizes. Risk does not continue to increase in a linear fashion in the morbidly obese. Nonetheless, we need to encourage patients to eat healthier and lose weight for multiple medical reasons to include reducing the risk of kidney stone disease. (Reviewer-David A. Duchene, MD).

Keywords: Kidney Calculi, Obesity, Epidemiology

Print Tag: Refer to original journal article

Ketorolac-Loaded Ureteral Stents May Have Pain Benefit for Certain Patients

A Novel Drug Eluting Ureteral Stent: A Prospective, Randomized, Multicenter Clinical Trial to Evaluate the Safety and Effectiveness of a Ketorolac Loaded Ureteral Stent.

Krambeck AE, Walsh RS, et al:

J Urol 2010; 183 (March): 1037-1042

The ketorolac-loaded ureteral stent is safe and shows a trend toward a treatment benefit in some patients. Future studies with higher drug concentrations or alternative drug-eluting stents may be beneficial.

Objective: To evaluate short-term safety and efficacy of a ketorolac-loaded ureteral stent compared to a standard (control) stent.
Design: Prospective, multicenter, double-blinded randomized study.
Participants: 276 patients undergoing stent placement after an uncomplicated ureteroscopic procedure.
Methods: 1:1 randomization was performed between ketorolac loaded stent versus the control stent. Primary end point was an intervention for pain defined as unscheduled physician contact, change in pain medication, or early stent removal. Secondary end points included medication use and pain visual analog score. A total of 20 patients underwent serum safety testing for ketorolac levels.
Results: No difference was found in primary or secondary intervention rates between the 2 groups. Mean pain pill count at day 3 was lower in the ketorolac loaded group than in the control group (P <0.05). A higher number of patients with ketorolac loaded stents (32%) used no or limited pain medications compared to controls (22%). A higher number of male patients with ketorolac loaded stents used no pain medication on days 3 and 4 compared to female patients with ketorolac loaded stents, and male and female control patients (P <0.05).
Conclusions: This study confirms the overall safety of the ketorolac loaded stent. No significant primary or secondary intervention rates were discovered, although a trend toward a treatment benefit was noted in patients receiving the ketorolac loaded stents. Future studies with higher drug concentrations or alternative drug-eluting stents may be beneficial.
Reviewer's Comments: This study is a well-designed multicenter endeavor to determine if a ketorolac loaded, drug-eluting ureteral stent is safe and beneficial to patients. Developing a less painful and less irritative stent for patients would be a great discovery. Unfortunately, the current design of the ketorolac stent in this study did not show a significant benefit in primary or secondary end points. With subgroup analysis, certain trends can be discovered that are highlighted in the manuscript. However, it appears that local treatment of the urothelium with ketorolac does not adequately control stent discomfort. As discussed in the editorial following the manuscript, the cellular tight junctions of the urothelium may create too impermeable of a barrier for transurothelial drug delivery. Alternatively, the dose of ketorolac may need to be changed or a different drug may need to be delivered. The study may also suggest that a different target for pain control may need to be investigated altogether. Much more work needs to be done in this area, but hopefully we will develop a better ureteral stent in the near future. (Reviewer-David A. Duchene, MD).

Keywords: Ureteral Stents, Pain Measurement, Endoscopy, Ketorolac, Ureteroscopy

Print Tag: Refer to original journal article

Is LPN Safe in Selected Octogenarians?

Laparoscopic Partial Nephrectomy in Octogenarians.

Thomas AA, Aron M, et al:

Urology 2009; 74 (November): 1042-1046

Laparoscopic partial nephrectomy can be performed safely in appropriately selected patients aged ≥80 years, with rates of perioperative morbidity similar to those observed in younger patients.

Objective: To assess the safety and technical feasibility of laparoscopic partial nephrectomy (LPN) in patients aged ≥80 years at the authors' institution to determine whether this treatment modality may be justifiable in select octogenarians.
Design/Methods: Retrospective review of the LPN database at a high-volume institution comparing 791 patients aged <80 years and 41 patients aged >80 years. Briefly, the procedure included transient renal hilar control, real-time laparoscopic ultrasonography, tumor excision with cold scissors, sutured reconstruction of the collecting system defect, and sutured renal parenchymal reapproximation. Comorbidities were higher in the older patient age group as evidenced by higher American Society of Anesthesiology (ASA) scores and Charlson Comorbidity Index scores. The mean operating time, transfusion rates, and open conversion rates were statistically the same, regardless of patient age.
Results: The median estimated blood loss (200 vs 150 mL) and duration of hospital stay (93 vs 68 hours) were statistically greater in the octogenarian group. The mortality rate within 30 days of surgery was 0% for the octogenarian group. Intraoperative (6% vs 2%) and postoperative (25% vs 30%) complications were not significantly different in the age <80 years group compared to the age >80 years group. There was no statistical difference in the number of reoperations or required secondary procedures between the groups. Presence of renal cell carcinoma was similar between both groups with 39% of octogenarians having benign pathology. The median percent decrease in glomerular filtration rate in both groups was 21%.
Conclusions: Laparoscopic partial nephrectomy can be performed safely in appropriately selected patients aged ≥80 years, with rates of perioperative morbidity similar to those observed in younger patients. The authors propose that age alone should not be a contraindication to laparoscopic partial nephrectomy.
Reviewer's Comments: This study chronicles the excellent surgical results that can be achieved in elderly patients when they are carefully screened and the surgical team is highly skilled. Despite increased risks in the octogenarian group as defined by age, increased ASA scores, and greater Charlson Comorbidity scores, the elderly group fared as well as the younger patients with the exception of a higher estimated blood loss (200 vs 150 mL) and a longer hospital stay. The authors acknowledge the growing number of options for small renal masses, including active surveillance with or without biopsy, ablation, and excision. The point of this article is not that urologists should be doing LPNs on all elderly patients, but that LPN can be safely performed on healthy elderly surgical candidates. Therefore, discussing LPN with the appropriately selected patient as an option is reasonable and should be encouraged. This article establishes LPN for octogenarians as a feasible option. Until the results of a prospective randomized clinical trial art available, we must continue to practice the art of medicine as we counsel our patients. (Reviewer-Kyle J. Weld, MD).

Keywords: Laparoscopy, Renal Tumor, Partial Nephrectomy

Print Tag: Refer to original journal article

Retroperitoneal LUUS Excellent Minimally Invasive Tx Option for Retrocaval Ureter

Retroperitoneal Laparoscopic Ureteroureterostomy for Retrocaval Ureter: Report of 7 Cases.

Xu DF, Yao YC, et al:

Urology 2009; 74 (December): 1242-1245

Retroperitoneal laparoscopic ureteroureterostomy is feasible, safe, and quick for treating a retrocaval ureter by laparoscopically experienced surgeons.

Objective: To report the authors' techniques and experience with retroperitoneal laparoscopic ureteroureterostomy (LUUS) for retrocaval ureter.
Design/Participants: Retrospective review of 7 patients who presented with retrocaval ureter and underwent retroperitoneal LUUS.
Methods: 6 of 7 patients presented with right flank pain, and all patients had hydronephrosis. Presence of retrocaval ureter was confirmed on preoperative imaging studies. Patients were positioned in the left lateral decubitus position. Three 10-mm trocars were placed below the costal margin in the anterior axillary line, 2 cm above the superior border of the iliac crest in the midaxillary line, and below the 12th rib in the posterior axillary line. The upper dilated ureter was quickly identified and traced to the cava. Then, the ureter was identified in the interaortocaval region and dissected caudally. The distal ureteral stump was spatulated. A double-J stent was placed. The anastomosis was performed with several interrupted 4-0 Vicryl sutures.
Results: Mean operating time was 128.6 minutes, mean anastomosis time was 36 minutes, and mean blood loss was 20 mL. No intraoperative or postoperative complications occurred. The retroperitoneal drain was removed at 3 to 5 days followed by removal of the Foley catheter at 5 to 7 days. The ureteral stent was removed 4 to 6 weeks postoperatively. A mean 16-month radiographic follow-up showed a substantial decrease in hydronephrosis for all patients. The patients reported resolution of preoperative flank pain, hematuria, or urinary tract infection.
Conclusions: These results show that retroperitoneal LUUS is an excellent minimally invasive treatment option for a retrocaval ureter that can be accomplished reasonably quickly and safely.
Reviewer's Comments: This represents the largest series of retrocaval ureters treated by retroperitoneal LUUS. The stent was removed in 4 to 6 weeks, which corresponds with typical practice in the United States, but the drain and Foley were left for longer periods than typical in the United States. The retroperitoneal approach can be frustrating when used infrequently because of the lack of operating space and difficulty in recognizing surgical landmarks. However, the dilated ureter is relatively easy to find in these cases, and the anastomosis is easily accessed and visualized in what is typically a bloodless field. The retroperitoneal approach allows the advantage of avoiding interference from peritoneal contents and prevents urinary leakage intraperitoneally. The procedure requires a surgical skill set similar to that necessary for laparoscopic pyeloplasty. Alternatively, the robotic-assisted technique could be used. (Reviewer-Kyle J. Weld, MD).

Keywords: Retrocaval Ureter, Laparoscopy, Ureteroureterostomy

Print Tag: Refer to original journal article

Are Pelvic Floor Disorders Related to UTIs?

Pelvic Floor Dysfunction Is Not a Risk Factor for Febrile Urinary Tract Infection in Adults.

van Nieuwkoop C, Voorham-van der Zalm PJ, et al:

BJU Int 2009; November 13 (): epub ahead of print

It appears that pelvic floor disorders, although a common health problem in adults, are not related to febrile urinary tract infection or acute pyelonephritis.

Objective: To determine whether pelvic floor dysfunction might be a risk factor for febrile urinary tract infection (UTI).
Design: Multicenter study with case controls.
Methods: Cases were recruited at 6 emergency departments at primary health care centers. Both men and women were recruited, and inclusion criteria included age >18 years, temperature >38.2°C with history of fever and chills, dysuria, frequency, urgency, and suprapubic, peritoneal, or flank pain. Additional inclusion criteria required a positive leukocyte esterase dipstick and the presence of >5 leukocytes per high-powered field. Controls were consecutive patients aged ≥18 years who presented to their primary care physician. Patients with polycystic kidney disease, history of peritoneal dialysis, kidney transplantation, or unable to follow-up were excluded. Baseline demographic and microbiological data as well as blood and urine cultures were taken before starting antimicrobial therapy.
Results: 178 patients with febrile UTI were enrolled and 153 met the criteria for case definition. Fifty-one could not be followed, leaving 102 cases for study. When these cases were compared to those excluded, there were no significant differences between patients. Among the 102 study cases, there was no association between presence of a pelvic floor disorder and febrile UTI.
Conclusions: Pelvic floor disorder is common among adults but it does not seem to be a risk factor for febrile UTI.
Reviewer's Comments: The data in this report are interesting and suggest that there is no association between pelvic floor disorders and UTI; in fact, there may be an inverse relationship. While this seems counterintuitive and since pelvic floor questionnaires address 3 different domains of pelvic floor disorders--incontinence, fecal incontinence, and sexual function--in this particular cohort, patients may have resorted to sexual abstinence because of problems with defecation or incontinence and thus had a lower chance of developing a UTI. (Reviewer-Karl J. Kreder, MD).

Keywords: Pelvic Floor Dysfunction, Acute Pyelonephritis, Adults, Urinary Tract Infection

Print Tag: Refer to original journal article

Behavioral Tx Not Useful in Women on Anticholinergics

Effect of Fluid Management on Fluid Intake and Urge Incontinence in a Trial for Overactive Bladder in Women.

Zimmern P, Litman HJ, et al:

BJU Int 2009; November 13 (): epub ahead of print

It appears from this report that simple fluid management instructions may be sufficient to improve results in women with urge urinary incontinence treated with anticholinergic therapy.

Objective: To examine whether specific instruction in fluid management results in changes in fluid intake and incontinence over a 10-week study period in women with pure or predominant urge urinary incontinence (UUI) lasting at least 3 months.
Participants/Methods: Patients were enrolled from the Behaviour Enhances Drug Reduction of Incontinence trial (BE-DRI) and was conducted by the Urinary Incontinence Treatment Network. In this trial, patients were randomized to daily treatment with tolterodine and simple instructions about fluid management or tolterodine combined with behavioral therapies, including pelvic floor muscle exercise training, bladder control techniques, and individualized instructions on fluid management. In total, 307 women with pure predominant UUI for >3 months were enrolled in the trial. To be eligible, patients had to have ≥7 episodes of incontinence on the 7-day bladder diary and be available for follow-up.
Results: Both treatment groups had similar baseline demographic and diary characteristics. Many of the diary variables changed significantly from baseline to 10 weeks but did not vary by treatment arm. The drug plus behavior therapy group was more satisfied with treatment (P =0.03) than the drug-only group. There was no additional effect in patients who had individualized fluid management instructions.
Conclusions: Behavioral therapy does not appear to have an immediate and useful role in women who are on anticholinergics, and appears to have a minimal effect on fluid intake in this population.
Reviewer's Comments: Strengths of the present study include the fact that there were stringent controls on diary data with baseline data available on 100% of patients and 10-week data available on 88%. (Reviewer-Karl J. Kreder, MD).

Keywords: Overactive Bladder, Fluid Management, Women, Urge Incontinence

Print Tag: Refer to original journal article

Genetic Offspring Remain Plausible in Men With AZFc Deletions

Clinical Data and Parenthood of 63 Infertile and Y-Microdeleted Men.

Patrat C, Bienvenu T, et al:

Fertil Steril 2010; 93 (February): 822-832

There is a high association between karyotype abnormalities and Y microdeletion, warranting systematic chromosomal analysis in all Y-microdeleted men.

Background: Data on outcomes of fertility treatments offered to Y-microdeleted men are lacking.
Objective: To assess follow-up data for Y-microdeleted men treated at in vitro fertilization centers.
Design/Participants: Observational retrospective survey of 63 infertile males with Y microdeletion.
Methods: Categorical analyses using x2 testing of multiple variables, including medical history, karyotype, subregion of microdeletion, semen parameters, testis biopsy results, serum hormone testing, choice of assisted reproductive technologies, and intracytoplasmic sperm injection (ICSI) results were performed.
Results: Of 63 microdeleted men, 8 (12.7%) had abnormal karyotypes; 39 were azoospermic and 24 were crypto-oligozoospermic. Twenty-seven of 39 azoospermic men completed testis biopsies, with recovery of spermatozoa in 6 men. Four of these 6 men pursued ICSI, but without success. Of the 24 crypto-oligozoospermic men, 19 completed ICSI, with pregnancy or birth obtained in 10 of 19. The 23 men (4 azoospermic and 19 oligospermic) who pursued ICSI had an AZFc deletion. For these men, the fertilization rate was higher with ejaculated spermatozoa (58%) than with testicular spermatozoa (35%). Overall, 28 of 63 couples (44.4%) opted for donor insemination, 5 of whom failed ICSI, 7 of whom chose donor sperm as the first option, and 16 of whom had unsuccessful testis biopsies.
Conclusions: Because of the association between abnormalities in karyotype and Y microdeletion, all infertile men with microdeletion should have karyotype analysis. For men with AZFc deletion, ICSI may provide an effective means of achieving pregnancy.
Reviewer's Comments: Severe oligospermia portends about a 10% prevalence of a Y microdeletion, whereas around 20% of men with idiopathic azoospermia will have a Y microdeletion. Of the 63 microdeletions, as expected, the most common deletion site was in the AZFc region (73%). All combined AZFb+c lesions were azoospermic. Patients with pure AZFc lesions were not azoospermic greater than half the time. Testis biopsy (non–micro-TESE) only yielded sperm in pure AZFc (partial AZFb and AZFc+ were also attempted) lesions in 6 of 27 (29%) biopsy attempts. No predictors for success were found. To date, no males born from IVF-ICSI from fathers with microdeletions have reached puberty to assess their fertility status, but should carry the same microdeletion as their father. Theoretical risks of somatic mutations or Turner's syndrome in offspring still exist (but have not yet been demonstrated), and are particularly poignant in men with microdeletions that have overlapping karyotypic abnormalities. In this study, this occured in 12.7% of men with 8 of 9 presenting with azoospermia. This stresses the integration of genetic counseling into the treatment pathway of men with Y microdeletions. (Reviewer-Tobias S. Kohler, MD, MPH).

Keywords: Male Factor Infertility, Y Microdeletion

Print Tag: Refer to original journal article