Does Prostate Cancer Screening Reduce Mortality?

Mortality Results From a Randomized Prostate-Cancer Screening Trial.

Andriole GL, Crawford ED, et al:

N Engl J Med; 360 (March 26): 1310-1319

The current data from the American PSA screening study supports the recommendations of many organizations that a man be counseled regarding risks and benefits prior to initiating screening.

Objective: To assess the effect of annual prostate-specific antigen (PSA) and digital rectal examination (DRE) screening in American men aged 55 to 74 years on prostate cancer mortality.

Methods: Randomized, controlled trial comparing annual PSA screening for 6 years and annual DRE for 4 years to "usual care" at 10 U.S. centers. PSA >4.0 ng/mL prompted referral for diagnosis.

Results: 76,693 men aged 55 to 74 years were randomized to screening (38,343) versus usual care (38,350). At 7 years, there was 85% compliance with screening, and 52% "contamination" for controls (the percentage of men in the control group who also had PSA testing performed). The incidence of prostate cancer was 7.4% in the screened group and 6.1% in the control group. Prostate cancer mortality was not significantly different between groups. Overall, there were slightly more prostate cancer deaths in the screened group (50) than in the control group (44).

Conclusions: In American men aged 55 to 74 years, PSA screening did not reduce mortality from prostate cancer.

Reviewer's Comments: The goal of a screening study is to determine a mortality benefit for the screening test, weighed against potential harms and costs. An ideal study would compare a screened population to one without screening, and would provide the best estimate of screening effect possible. However, the ubiquity of the PSA blood test in the current era makes this type of design almost impossible. The design in this study, which allows "usual care" screening in the control group, is, therefore, a practical approach. Unfortunately, the "contamination" of screening in the control group is exceedingly high, 52% for men with a PSA test within the prior year. A broader definition (eg, a PSA test within the past 4 years) would increase the contamination rate even more. Contamination dilutes the treatment effect, and high contamination may completely mask the true effect of screening. Another major concern for a prostate cancer study is length of follow-up. In the current report, the data are based on 7 years of follow-up for all patients and 5 to 6 years for prostate cancer patients. The natural history of prostate cancer mortality in the pre-PSA era has been reported as 15 years from diagnosis, and the lead time afforded by PSA may be as long as 5 to 10 years or more. Follow-up of 5 to 6 years is clearly not long enough. This is confirmed by the low event rate in the current study, with only 50 prostate cancer deaths reported after 7 years. Fortunately, the study will continue to follow patients until a minimum of 13 years has been reached. Prostate cancer treatments have improved greatly but still come with well-known side effects. Ultimately, this study upholds recommendations for counseling patients prior to screening and reinforces our responsibility to minimize treatment harms.

Additional Keywords: Screening

print tag: () Refer to original journal article.

PSA Screening in European Men

Screening and Prostate-Cancer Mortality in a Randomized European Study.

Schrder FH, Hugosson J, et al:

N Engl J Med; 360 (March 26): 1320-1328

The European PSA screening study reports a significant reduction in prostate cancer death from screening but increases concerns regarding over-diagnosis and over-treatment.

Objective: To assess the effect of periodic PSA screening in European men aged 55 to 69 years on prostate cancer mortality.

Methods: Randomized, controlled trial of men aged 55 to 69 years comparing periodic screening with prostate-specific antigen (PSA; every 4 years at most centers) to no screening in 7 European countries. PSA >3.0 ng/mL prompted referral for diagnosis.

Results: Follow-up was 100% at a median of 9 years. Compliance with screening was 82%; contamination with screening in the control group was not reported. The incidence of prostate cancer was 8.2% in the screened group and 4.8% in the control group. Death from prostate cancer was 0.29% in the screened group and 0.36% in the control group, for a relative risk reduction (RRR) of 20% from screening. A total of 1410 men would need to be screened and 48 men diagnosed with prostate cancer would need to be treated for 1 man to achieve the mortality benefit seen after 9 years.

Conclusions: In European men aged 55 to 69 years, periodic screening with PSA reduced mortality from prostate cancer.

Reviewer's Comments: The positive results from the European PSA screening study provide an opportunity to focus on 2 questions: why are these results so different from the American screening study, and what should we conclude? A fairly large pre-screening effect was seen in the American study, which excluded patients who had PSA testing within the past 3 years. This led to a fairly even distribution of prostate cancer types in the 2 groups, as many more aggressive cancers were likely "screened out" before study entry. In the European study, there were significantly more high-grade cancers in the control group, suggesting a causative relationship between screening, earlier detection, and prostate cancer mortality. The latter study was also much larger and had many more events (deaths), allowing it to be a more mature study at this time. Contamination of the control group was not reported but, if high, would only add to the screening effect seen. The positive results allow a "number-needed-to-screen" calculation, which demonstrated that 1410 men need to be screened and 48 prostate cancer patients need to be treated for 1 man to receive the mortality benefit shown by the study. While this may seem like a lot of men needed to screen, the results are similar to those of breast and colon screening studies. However, the potential harms to quality of life and costs to society are potentially much greater. The European study, therefore, offers the opportunity to begin the debate on the risk-to-benefit ratio of screening. Some answers may be provided by future analysis from both the European and American studies, but this will likely remain a more personal debate for physicians and patients to address.

Additional Keywords: Screening

print tag: () Refer to original journal article.

Potassium Citrate May Decrease Stone Formation Long Term

Impact of Long-Term Potassium Citrate Therapy on Urinary Profiles and Recurrent Stone Formation.

Robinson MR, Leitao VA, et al:
J Urol; 181 (March): 1145-1150

Long-term potassium citrate use is effective for stone prevention therapy.

Objective: To determine the long-term effects of potassium citrate on urinary metabolic profiles and its impact on stone formation rates.

Design: Retrospective, cohort study.

Methods: Patients treated between 2000 and 2006 with pre-therapy and post-therapy 24-hour urinary profiles and who remained on potassium citrate for at least 6 months were included in the analysis.

Results: 503 patients met study inclusion criteria. Mean therapy duration was 41 months. A significant and durable change in urinary metabolic profiles was noted as soon as 6 months after the onset of therapy. Changes included increased urinary pH (5.90 to 6.46) and increased urinary citrate (470 to 700 mg a day). The stone formation rate also significantly decreased from 1.89 to 0.46 stones per year after initiation of potassium citrate. There was a 68% remission rate and a 93% decrease in stone formation rate.

Conclusions: Potassium citrate provides significant alkali and citraturic response during short-term therapy, which is maintained with long-term therapy. Long-term potassium citrate also significantly decreases the stone formation rate.

Reviewer's Comments: Potassium citrate is a mainstay of medical stone management. It increases the solubility of stone-forming salts and increases inhibitor activity against calcium oxalate and calcium phosphate stones. Potassium citrate increases urinary pH and urinary citrate to decrease stone formation rates of both calcium and uric acid stones. However, the question often arises of how long to maintain therapy and if therapy remains effective after several years. It is well known that thiazide diuretics lose effectiveness as individuals build a tolerance with prolonged therapy. Does potassium citrate also lose its effectiveness? The authors of this article performed a nice retrospective review to determine that long-term potassium citrate therapy does not lose its effectiveness. Even up to 14 years of therapy, urinary parameters showed continued improved alkali and citraturic response. More importantly, stone formation rates also showed significant and maintained decreases. Many of these patients had multiple metabolic abnormalities related to stone risk parameters; lifestyle changes, dietary changes, and additional medications were also used. However, this is an important article demonstrating that potassium citrate is an effective option for long-term management of recurrent nephrolithiasis.

Additional Keywords: Stone Prevention

print tag: () Refer to original journal article.

Residual Fragments After PCNL Often Lead to Stone-Related Events

Natural History of Residual Fragments Following Percutaneous Nephrostolithotomy.

Raman JD, Bagrodia A, et al:

J Urol; 181 (March): 1163-1168

Residual stones after PCNL of >2 mm may be best treated with second-look nephroscopy.

Objective: To determine the natural history of residual fragments after percutaneous nephrostolithotomy (PCNL).

Design: Retrospective chart review.

Participants: 42 patients (of 527 total PCNL patients) with residual stones after PCNL with at least 6 months of follow-up were included.

Methods: CT scans defined the number, size, and location of residual fragments. The study end point was a stone-related event defined as growth of a residual fragment, the need for an emergency department visit, hospitalization, or additional intervention attributable to the residual fragment.

Results: Median residual fragment size was 2 mm. Eighteen patients (43%) experienced a stone-related event at a median of 32 months after PCNL. On univariate analysis, a stone-related event was predicted by a residual stone fragment in the renal pelvis or ureter, a maximal residual fragment size >2 mm, and cumulative fragment size. On multivariate analysis, only maximum residual fragment size >2 mm and location in the renal pelvis or ureter independently predicated a stone event.

Conclusions: Size and location of residual fragments after PCNL correlated with a significant risk of stone-related events. Therefore, second-look nephroscopy may be of benefit in patients with residual fragments >2 mm or in those with fragments located in the renal pelvis or ureter.

Reviewer's Comments: The authors from UT Southwestern presented a nice manuscript on the natural history of residual fragments after PCNL. It is often difficult to know if residual fragments are left at the end of the case, and the authors obtained CT scan on postoperative day 1 on all patients. Most patients were taken back for a second-look nephroscopy, were rendered stone free, and were not included in this study. Only those with residual fragments who underwent surveillance were examined. It is important to know the fate of these stones as insurance companies often balk at the cost of secondary procedures and also the large push toward "tubeless PCNL," which risks leaving small fragments without access for a second-look nephroscopy. The results of this study are sobering in that 43% of patients with residual fragments experienced a stone-related event; of these, 61% needed a secondary surgical procedure. The size of the residual fragments causing these problems became significant at 2 mm! Therefore, the authors argue for second-look nephroscopy for fragments >2 mm and for those in the renal pelvis and ureter. I also believe the goal of PCNL should be to determine if the patient is stone free, even if it requires a second-look nephroscopy. We have no reason to believe that these residual fragments will disappear or pass without difficulty, and a second-look nephroscopy is a relatively easy and minimally invasive procedure through an already established nephrostomy tract.

Additional Keywords: Kidney Stones

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Laparoscopic Radical Nephrectomy Extraction Sites

Comparison of Different Extraction Sites Used During Laparoscopic Radical Nephrectomy.

Bird VG, Au JK, et al:
J Urol; 181 (April): 1565-1570

In patients with a high body mass index, using a paramedian extraction site incision is a significant risk for incisional hernia formation.

Design: The authors retrospectively analyzed the records of 181 nephrectomies performed in 175 patients.

Methods: All patients underwent a conventional laparoscopic radical nephrectomy using a LapSac for intact specimen extraction. None of the patients in this cohort underwent hand-assisted nephrectomies. The extraction site incision was not randomized and was chosen by the surgeon. The surgeon placed the trocar intended for camera insertion at the umbilicus in thin patients and placed the camera trocar lateral to the rectus muscle in patients with a high body mass index (BMI). Early in the study, patients with both types of body habitus had extraction site incisions made by extending the camera trocar incisions; the kidneys of 59 thin patients were extracted through midline umbilical incisions, and the kidneys of 62 patients with a high BMI were extracted through a vertical paramedian incision. These incisions were closed in a single layer with interrupted figure-of-8, 0 braided nonabsorbable suture. The surgeon's choice of extraction site incision changed for the latter part of the series for patients with a high BMI. While the camera port was still placed lateral to the rectus muscle, the extraction incision in 52 patients with a high BMI was made by extending the lower quadrant trocar incision in an oblique muscle-splitting manner. This incision was closed in 2 layers with figure-of-8 interrupted 0 braided nonabsorbable sutures. As expected, in patients with a high BMI, the specimen weight was significantly higher in patients who had either the paramedian or lower-quadrant extraction incisions. The mean follow-up for all patients was 35 months.

Results: Incisional hernias occurred only in the group in which paramedian extraction incisions were made. A total of 4 hernias were noted, representing 6.5% of the paramedian group. One patient underwent laparoscopic hernia repair, while the others opted for observation. Analysis of risk factors such as history of hypertension, chronic obstructive pulmonary disease, diabetes mellitus, or chronic steroid use did not show any significant association with the development of incisional hernias. The study also did not show a significant association between high BMI and the development of incisional hernia, but 2 of the 4 patients who developed incisional hernias had a BMI >30 kg/m2.

Conclusions/Reviewer's Comments: While other authors have suggested that high BMI, increasing age, chronic steroid use, diabetes mellitus, and chronic obstructive pulmonary disease are risk factors, the current study found the site of extraction incision to be significant. Specifically, paramedian incisions seem to be associated with incisional hernia development. Additionally, I have found the lower quadrant extraction incision to be easier and quicker to close than the midline or vertical paramedian incision.

Additional Keywords: Hernia

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Role of Crossing Vessels in UPJ Obstruction

Pathologic Findings in Patients With Ureteropelvic Junction Obstruction and Crossing Vessels.

Richstone L, Seideman CA, et al:
Urology; 73 (April): 716-719

Fifty-seven percent of patients with ureteropelvic junction obstruction associated with crossing vessels have intrinsic histopathologic ureteral findings.

Objective: To evaluate the role of crossing vessels in the pathophysiology of ureteropelvic junction (UPJ) obstruction.

Design/Methods: This article is a retrospective review of the records of 95 patients who underwent laparoscopic pyeloplasty for primary UPJ obstruction with ureteral tissue available for histologic evaluation. All patients demonstrated hydronephrosis on CT scans and a half-time 20 minutes. The presence or absence of crossing vessels was determined intraoperatively. UPJ tissue was submitted for hematoxylin-eosin staining, and abnormal histologic findings were categorized based on the presence of chronic inflammation, smooth muscle hypertrophy, fibrosis, or smooth muscle atrophy.

Results/Conclusions: Histology revealed normal ureteral tissue in 10% of the specimens without a crossing vessel, leaving 90% of the specimens without a crossing vessel to have some histologic abnormality. The most common abnormality was chronic inflammation in 40%. Histologic evaluation showed normal ureteral tissue in 43% of the specimens with a crossing vessel, with 57% revealing an abnormality. The predominant abnormalities in the crossing vessel group were chronic inflammation, fibrosis, and smooth muscle atrophy. Patients with a crossing vessel had a statistically significant decrease in histologic abnormalities.

Reviewer's Comments: The authors acknowledge that hematoxylin-eosin staining could miss neural or molecular abnormalities and that electron microscopic analysis of tissue might detect additional ultrastructural pathologic features. However, the presented data are interesting. Since 43% of the patients with associated crossing vessels had no histologic abnormality, this suggests that the obstruction was solely due to the mechanical influence of the crossing vessel. So, theoretically, in these cases, the obstruction could be repaired by a conservative procedure involving crossing vein ligation or crossing artery dissection and repositioning. The remaining 57% of patients with associated crossing vessels had histologic abnormalities potentially secondary to the presence of the vessel. In 31% of cases with ureteral pathology, fibrosis was present and is unlikely to resolve with relief of the mechanical obstruction alone. On the other hand, 32% of these cases revealed inflammation that could resolve over time by removing only the mechanical obstruction. Given these results, we must be very careful when considering conservation vessel ligation procedures without proceeding with a formal pyeloplasty.

Additional Keywords: Vascular Anomaly

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LUTS in US, UK, and Sweden--Is There a Difference?

The Prevalence of Lower Urinary Tract Symptoms (LUTS) in the USA, the UK and Sweden: Results From the Epidemiology of LUTS (EpiLUTS) Study.

Coyne KS, Sexton CC, et al:

BJU Int; (Mar 5):

In this large population-based study of 3 countries, lower urinary tract symptoms were found to be highly prevalent among both men and women aged >40 years.

Objective: To compare the prevalence and associated bothersome aspects of lower urinary tract symptoms (LUTS) in the general populations of the United States, the United Kingdom, and Sweden.

Design/Methods: This was a population-based cross-sectional Internet survey performed in the United States, the United Kingdom, and Sweden. The survey examined the prevalence and symptom-specific bothersome aspects of LUTS, and evaluated the impact of these symptoms on health-related quality of life, work productivity, and mental and sexual health. LUTS were defined using International Continence Society definitions with language modifications to increase layperson understanding of the questions. Symptoms assessed included storage symptoms (urinary frequency, urinary urgency, nocturia, incontinence, stress, urgency, mixed and nocturnal enuresis, leaking during sexual activity, and leaking for no reason), voiding symptoms (weak stream, terminal dribble, hesitancy, straining, intermittency, and split stream), post-micturition symptoms (incomplete emptying and post-micturition incontinence), and other (bladder pain and dysuria). Response options for most LUTS symptoms were *never* , *rarely* , *sometimes* , *often,* and *almost always* . Participants were asked how bothered they were by each particular symptom. All participants were also asked to complete questions about frequency and bother, comorbid conditions, demographics, health-related quality of life, overall bladder condition, general health care seeking behavior, general risk factors, anxiety and depression, sexual health, and work productivity.

Results: The final sample included 20,000 participants in the United States, 7500 in the United Kingdom, and 2500 in Sweden. These subjects were randomly selected from a pool of completed survey respondents through a "sample-matching" process used to construct gender, age, race, and education population-representative samples from the large panels of Internet-surveyed responders. Overall, the mean age was 56.6 years, and the majority of participants were Caucasian. The authors found that all voiding symptoms were more common among men than women, but storage symptoms associated with overactive bladder were more prevalent in women. The prevalence of at least 1 lower urinary tract symptom graded at *sometimes* was 72% for men and 76% for women; 48% of men and 52% of women graded at least a lower urinary tract symptom as often. Most of the participants reported waking to urinate at least once per night (70% of men, 75% of women). The most common LUTS was terminal dribbling in both men and women. Some of the least prevalent symptoms were among the most bothersome, such as leaking during sexual activity, which was most often reported as bothersome by 82% of men and 87% of women.

Reviewer's Comments: Interestingly, the most prevalent symptoms were not necessarily the most bothersome; in fact, the least prevalent symptom—incontinence during sexual activity—was actually the most bothersome symptom for both men and women. Terminal dribbling—the most prevalent LUTS—was the least bothersome for both sexes.

Additional Keywords: Prevalence

print tag: () Refer to original journal article.

Botulinum Toxin A vs Anticholinergics for Urge Incontinence--Cost-Effectiveness

Cost-Effectiveness of Botulinum Toxin A Versus Anticholinergic Medications for Idiopathic Urge Incontinence.

Wu JM, Siddiqui NY, et al:
J Urol; 181 (May): 2181-2186

This report suggests that botulinum toxin A is a cost-effective option compared to anticholinergics for the treatment of refractory idiopathic urge incontinence.

Objective: To assess the cost-effectiveness of botulinum toxin A injection compared to anticholinergic medications for the treatment of idiopathic urge incontinence.

Design/Methods: These authors used the Markov decision model to estimate the cost and effectiveness of anticholinergic medications and botulinum toxin A injection for refractory idiopathic urge incontinence. For the botulinum toxin A evaluation, the authors used a hypothetical study population of women in whom first-line therapy with behavioral treatment and one anticholinergic medication failed. The analysis was conducted from a societal perspective with a time period of 2 years using 3-month cycles. In the botulinum strategy, women started with a 200-unit botulinum injection. At the end of the 3-month cycle, subjects either experienced improvement in incontinence or treatment was considered to have failed. If the patients failed treatment, they could elect to undergo a repeat injection during the next cycle or enter a state of persistent incontinence. For the anticholinergic medications strategy, women started with a second long-acting anticholinergic medication after which conditions were deemed to improve or treatment failed. Those in whom the second medication failed were given the option of a third long-acting anticholinergic. Effectiveness was measured by quality adjusted life-years (QALY); these were calculated based on health state utility scores. The primary outcome measure was the incremental cost-effectiveness ratio (ICER). This is the ratio of the difference in cost to the difference in QALY between botulinum toxin A and anticholinergics.

Results: In this base case analysis, the botulinum treatment strategy was more expensive than the anticholinergic regimen ($4392 vs $2563); however, this strategy was also more effective. The ICER was $14,377/QALY given an ICER threshold of <$50,000/QALY to define cost-effectiveness. Botulinum toxin A injection is cost-effective compared to anticholinergic medications. However, anticholinergics became cost-effective when compliance with their use exceeded 75% or when the cost of the botulinum toxin A procedure exceeded $3875.

Reviewer's Comments: The financial data from this model of botulinum toxin A and anticholinergics points out the need for more real-world data to help guide health care decisions in treating urge incontinence.

Additional Keywords: Cost Effectiveness

print tag: () Refer to original journal article.

Diet Seems to Affect Semen Parameters

Food Intake and Its Relationship With Semen Quality: A Case-Control Study.

Mendiola J, Torres-Cantero AM, et al:

Fertil Steril; 91 (March): 812-818

Fruits and vegetables may improve semen quality, whereas lipophilic foods such as meat and dairy may negatively affect semen quality.

Objective: To compare dietary intake of male patients from a fertility clinic with normal and abnormal semen parameters.

Design: Observational, analytical case-control study.

Participants: 30 cases with poor semen quality (<20 million/mL, <6% normal forms according to Kruger) versus 31 controls (20 million/mL, 50% motility, 14% normal forms). Exclusion criteria included varicocele, hypogonadism, genetic defects, and a history of chemotherapy and/or radiation.

Methods: Face-to-face interviews were performed of all subjects with an extensive food item questionnaire before subjects were aware of results from 2 semen samples, hormones, and genetics tests.

Results: General characteristics of cases and controls showed excellent matching with no significant differences found in ejaculate volume, hormonal levels, age, smoking, smoke exposure, alcohol, toxic exposures, and several other variables. Body mass index was very similar, 23.2 (22.8 to 23.6) for cases and 23.5 (23.1 to 23.9) for controls. As expected, significant differences were found in sperm parameters (3.3 per 39.5 million/mL; 27.4 per 52.2% motility; 3.7 per 22.3% normal form [Kruger criteria] for cases/controls). Cases consumed more lipophilic foods (yogurt, meat products, and potatoes) while controls had a higher intake of skimmed milk, shellfish, tomatoes, and lettuce. Logistic regression models revealed that cases had a lower intake of lettuce, tomatoes, and fruits (apricots and peaches) and a significantly higher intake of dairy and meat processed products.

Conclusions: Fruits and vegetables may improve semen quality, whereas lipophilic foods such as meat and dairy may negatively affect semen quality.

Reviewer's Comments: This article affirms the intuitive notion that diet can affect semen parameters. Surprisingly little information on this topic is available in the literature. The authors speculate on the role of relative exposure to xenobiotics (xenoestrogens) or anabolic steroids typically found in meats or dairy and thought to impair sperm), and antioxidants (found in higher quantities in fruits and vegetables and thought to aid sperm) in altering sperm quality. The authors have performed an excellent case-control study and have acknowledged the main limitations one must be wary of for all case-control studies. Selection of controls is crucial. In this case, the controls differed only in semen analysis parameters and diet, with no differences in body mass index or many other potential confounders. Recall bias was unlikely to play a role since the men did not know their results when being interviewed. Since the study was relatively underpowered, results are more impressive. The temporal relationship of diet to semen parameters is unclear. Given the 3-month sperm cycle, when can we expect to see results of changes in diet? Finally, causality can never be inferred from case-control studies, but they do generate hypotheses. Given the frequency of diet interventions, the stage seems set for future prospective, randomized cross-over trials to assess the effect of diet on semen parameters.

Additional Keywords: Diet

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Pregnancy Rates May Improve After Antegrade Varicocele Embolization

Improvement of Seminal Parameters and Pregnancy Rates After Antegrade Sclerotherapy of Internal Spermatic Veins.
Galfano A, Novara G, et al:
Fertil Steril; 91 (April): 1085-1089

Successful embolization of clinically palpable hydiopathic varicoceles resulted in improved semen parameters and resulted in pregnancy in 37% of infertile couples in this study.

Objective: To assess the effect of antegrade scrotal sclerotherapy on varicocele patients with impaired seminal parameters and/or couple infertility.

Design: Longitudinal prospective cohort study.

Participants: 364 consecutive patients with impaired semen parameters (47.5% not yet interested in fertility). All patients were aged 18 to 40 years, had a clinically palpable varicocele, had at least one decreased semen parameter, and had no other scrotal pathology that could affect semen parameters. Female factors were excluded in the infertile subgroup of men (52.5%) unable to achieve pregnancy for 2 years.

Methods: Data on semen parameters, age, partner age, marital status, smoking, varicocele side and grade, and degree of reflux on color Doppler were collected.

Results: At 1 year after surgery, all median seminal parameter values significantly improved: count from 12 to 20 million/mL (of 51.6% subjects with oligospermia); motility from 25% to 45% (of 92.3% with asthenospermia); and normal forms from 17% to 35% (of 40.4% with teratospermia). Persistent varicocele reflux on Doppler (procedural failure) was found in 45 subjects (12.4%). Of men without reflux on Doppler at 6 months (procedure success), no varicocele recurred at the 1-year mark with repeat imaging. Of infertile males with successful treatment, 37.4% fathered offspring. The median percentage of sperm motility was the only statistically significant parameter evident in those able to achieve spontaneous pregnancy: 46% motility, 65 patients fathered offspring versus 35% motility in the 109 patients who could not achieve pregancy (P =0.001).

Conclusions: Successful embolization of clinically palpable hydiopathic varicoceles resulted in improved semen parameters and resulted in pregnancy in 37% of infertile couples.

Reviewer's Comments: This paper is important for several reasons. Publication in *Fertility & Sterility* validates varicocele repair to the non-urologist readership. Briefly, antegrade scrotal sclerotherapy can be performed by urologists and involves a small scrotal incision, identification and ligation of a pampiniform vein, and injection of a sclerosing agent. The authors should be commended for being very strict about assessing procedural success with Doppler. The failure rate was 12.4%. Complications of antegrade therapy occured in 20 patients (5.5%) and included hematoma, orchiepididymitis, and orchalgia (consistent with previous publications); all cases resolved with minimal intervention except for 2 hematomas requiring surgical drainage. In comparison, gold standard subinguinal microsurgical varicocele repair has previously reported much lower failure rates (1% to 2%) with a comparable complication rate (5%). Finally, the paper's pregnancy rate of 37.4% is consistent with previously reported rates between 30% and 60%. This is clearly superior to the baseline pregnancy rates of infertile couples, typically around 5%.

Additional Keywords: Embolization

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Weight Loss Can Significantly Reduce Urinary Incontinence

Weight Loss to Treat Urinary Incontinence in Overweight and Obese Women.

Subak LL, Wing R, et al:

N Engl J Med; 360 (January 29): 481-490

Stress incontinence can be effectively treated with weight loss in some individuals.

Objective: To determine the impact of an intense weight loss program on overweight or obese women with documented incontinence.

Design/Methods: A total of 338 obese women with a mean body mass index (BMI) of 36 and at least 10 urinary incontinence episodes per week (mean age, 53 years) were randomized to a strict diet, exercise, and behavior group (n=226) or a control group (n=112). The intervention consisted of weekly meetings with experts and a targeted average of 30 minutes of exercise a day, 1200 to 1500 calories per day diet plan, and the use of vouchers to utilize occasional meal-replacement products (Slim-Fast). Women in the control group received only 4 general health educational sessions.

Results: The intervention group lost a mean of 16 pounds compared to 3 pounds in the control group (P <0.001). Mean weekly incontinence episodes decreased by 47% compared to 28% (P =0.01), and larger reductions (58% vs 33%) occurred with stress incontinence (P =0.02) compared to urge incontinence (42% vs 26%; P =0.14). Greater weight loss was also significantly associated with greater satisfaction or perceived benefit from the participants in this study, such as less frequent episodes, less involuntary urine loss, and a reduction in the severity of this condition. However, there was no evidence in the intervention or control group that pelvic-floor exercises significantly reduced incontinence episodes.

Conclusions: A 6-month intensive behavioral modification that results in dramatic weight loss in obese women with incontinence significantly reduces the severity of this condition, especially with stress incontinence but also with urge and mixed incontinence.

Reviewer's Comments: Losing a lot of weight and probably losing a lot of waist and exercising regularly seem to have been responsible for these profound benefits. Pelvic exercises and magical over-the-counter-pills are alluring but are generally never the key to solving these specific incontinence issues. Women and men with stress, urge, or mixed incontinence seemed to all derive some moderate to profound benefit from this intervention. Should weight loss be considered first-line treatment in obese women and men? Yes, it seems this is the case! However, the challenge will be long-term compliance with this kind of weight loss and behavioral change because, after 6 months and up to 2 years later, medical history demonstrates that many of these individuals will gain back a larger portion of the weight they lost in the first 6 months. Gee, I wonder if health care professionals, family, friends, and employers consistently encouraging patients/individuals could improve compliance rates (facetious, rhetorical, and sarcastic comment provided for your reading pleasure).

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Fad Diets Equally Effective With Compliance

Comparison of Weight-Loss Diets With Different Compositions of Fat, Protein, and Carbohydrates.

Sacks FM, Bray GA, et al:
N Engl J Med; 360 (February 26): 859-873

Your dietician was right—it is all about total calories ingested versus total calories burned.

Objective: To determine the amount of weight loss over 2 years and the impact of low- versus high-fat, average- versus high-protein, and high- versus low-carbohydrate diets.

Participants/Methods: A total of 811 overweight (body mass index, 33) were randomly assigned 1 of 4 diets that differed in their intake of fat, protein, and carbohydrates. The diets were heart healthy, and participants were also instructed to get 8% calories from saturated fat, at least 20 g of dietary fiber per day, and 150 mg of cholesterol per 1000 calories. Each individual was also targeted to receive approximately 750 calories less per day compared to their normal daily caloric intake. Baseline caloric intake was approximately 2000 calories per day. Regular support-group sessions were also offered to all participants. Mean age was 51 years, two-thirds of subjects were female, 16% were African-American, and approximately one-third had hypertension.

Results: A dropout rate of 20% occurred during the 2-year study period. Most of the weight loss occurred in the first 6 months (13 pounds), and some weight gain began to occur after 12 months. At 2 years, the amount of weight loss was identical with all 4 diet groups (9 pounds) as was satiation, hunger, diet satisfaction, and attendance at the group sessions. Attendance at regular group sessions correlated with the amount of weight loss in all groups.

Conclusions: A reduction in overall caloric intake to a similar amount causes similar weight loss regardless of whether fat, protein, and/or carbohydrates are the focus of any diet.

Reviewer's Comments: Wow! Let me see if I get this straight (the strict low-fat diet police are going to hate this one). If you reduce your overall caloric intake by 500 to 750 calories per day, you can lose about 9 to 10 pounds a year—regardless of whether you choose a high-fat, low-fat, high-carb, low-carb, high-protein, or moderate-protein diet! This means that the diet should fit the personality of the patient! If I have a patient who really wants to try a high-protein diet, it is okay. If another person wants to try a high-fat diet, that is okay! However, unless individuals have adequate support networks, then long-term compliance could be a problem. Gee, I wonder if health care professionals, family, friends and employers consistently encouraging patients/individuals to follow whatever diet program they wish to follow could improve compliance rates (once again—facetious, rhetorical, and sarcastic comment provided for your reading pleasure).

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Locally Advanced Prostate Cancer--Endocrine Treatment With or Without RT

Endocrine Treatment, With or Without Radiotherapy, in Locally Advanced Prostate Cancer (SPCG-7/SFUO-3): An Open Randomised Phase III Trial.

Widmark A, Klepp O, et al:

Lancet; 373 (301-308):

When treating locally advanced prostate cancer with hormones, the evidence suggests that adding local radiation will increase both prostate cancer-specific and overall survival.

Objective: To assess the effect of radiation therapy (RT) when added to hormone therapy on prostate cancer-specific survival in locally advanced prostate cancer.

Methods: Men with locally advanced prostate cancer were randomized, with allocation concealment, to endocrine treatment alone (3 months leuprorelin followed by continuous flutamide) or endocrine plus local RT (minimum, 70 Gy).

Results: 875 patients were included. After a median follow-up of 7.6 years, 79 men in the endocrine arm versus 37 men in the combined arm had died of prostate cancer. The cumulative incidence of prostate cancer mortality at 10 years was 23.9% and 11.9% for endocrine alone and combined therapy, respectively. This resulted in a relative risk reduction of 66%, an absolute risk reduction (ARR) of 12%, and a number needed to treat of 9. Overall survival at 10 years was also better with combined therapy (29.6% vs 39.4%, ARR 9.8%), and prostate specific antigen recurrence was much higher in the endocrine-only arm (74.7% vs 25.9%). Side effects were slightly higher for urinary, rectal, and sexual domains in the RT group.

Conclusions: At 10 years, adding RT to hormone treatment in patients with locally advanced prostate cancer decreased the prostate cancer mortality rate by half. Extended overall survival was also seen, with minimal additional side effects.

Reviewer's Comments: While the role of surgery in locally advanced prostate cancer is gaining new ground, RT still remains the more common standard. Adding hormone therapy to RT is also well established and has shown benefit, especially for more advanced disease, in a number of RTOG studies. The current study adds to our knowledge by using a different approach, with an endocrine-only arm compared to an endocrine plus RT arm, as opposed to 2 RT arms with one having endocrine as well. We see that the effects of hormones alone are not as good as when combined with RT. In addition, the current study used flutamide, a non-steroidal anti-androgen, which is well accepted in Europe but less widely used in the United States, where we use LHRH agonists much more frequently. The strategy in this study worked well, however, and potentially allowed for better quality of life scores. One concern is that there was no blinding present. It may have been impossible to mask the patient and physician from treatment arms, but outcome adjudication could have been blinded. Instead, it was the treating physician who determined cause of death. It should not be difficult to see how this may introduce bias in the results as they pertain to prostate cancer-specific mortality. Nonetheless, the results are impressive and suggest that RT should be added when treating locally advanced prostate cancer with hormones.

Additional Keywords: Endocrine Therapy/RT

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DAs Useful in Providing Cancer Knowledge

Are Cancer-Related Decision Aids Effective? A Systematic Review and Meta-Analysis.

O'Brien MA, Whelan TJ, et al:

J Clin Oncol; 27 (February 20): 974-985

Given the complexity of prostate-specific antigen screening and prostate cancer treatment options, using a DA can be a useful and time efficient method of providing information to your patient.

Objective: To assess the effectiveness of cancer-related decision aids (DAs) on patient-related outcomes.

Design: A systematic review and meta-analysis of randomized, controlled trials (RCTs) comparing the use of DA's in cancer screening, prevention, and treatment to usual care.

Methods: A comprehensive literature review of multiple electronic sources and reference lists was performed. Data were extracted by 2 independent reviewers and methodological quality was assessed. Heterogeneity and *a priori* exploratory subgroup analysis were tested.

Results: 34 RCTs were identified after they met study criteria. There were 22 screening aids, of which 12 were for prostate cancer and 12 prevention or treatment aids, of which 2 were for prostate cancer. Patient-related outcomes evaluated by these aids included knowledge, decisional conflict, and decisional anxiety. Overall, DAs increased patient knowledge, reduced decisional conflict, and did not increase anxiety.

Conclusions: DAs can help to increase patient knowledge about cancer screening, prevention, and treatment options, and may reduce conflict as well.

Reviewer's Comments: This is a well-done systematic review of many different types of DAs, with an overall conclusion that they can be helpful in increasing patient knowledge. Taken together, the analysis also demonstrated a reduction in decisional conflict, which plagues many men with prostate cancer. The studies included in the analysis were diverse, and the aids used dissimilar, or "heterogeneous," so results from a meta-analysis may be limited. Comparing a decision aid for breast cancer to one for prostate cancer may not be a good idea, for example. Even so, the authors were able to show the benefits mentioned. How does this apply to the practicing urologist? Of the 22 screening DAs included in this analysis, 12 were for prostate cancer screening and 2 for prostate cancer treatment. Prostate cancer screening remains controversial, with 2 new studies sending mixed messages for and against screening, a new U.S. Preventive Task Force recommendation against screening in men >75 years of age, and many organizations suggesting a discussion with patients before doing the prostate-specific antigen test. While in theory some may agree with such a discussion, a busy practice may not afford that reality. Likewise, counselling patients about the many good treatment options for prostate cancer after diagnosis has been made can be a time-consuming process. Decision aids may be a useful way to provide knowledge and reduce conflict for your patients, while allowing you to practice evidence-based and time efficient urology.

Additional Keywords: Patient-Related Outcomes

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Sugar- and Caffeine-Free Colas Do Not Increase Stone Risk

Effect of Soda Consumption on Urinary Stone Risk Parameters.

Passman CM, Holmes RP, et al:

J Endourol; 23 (March): 347-350

Diet, caffeine-free colas can be used to increase volume intake and reduce stone formation risk.

Objective: To determine the influence of 3 different fluids on urinary stone risk factors.

Design: Prospective, standardized, crossover study.

Participants: 6 healthy nonstone-forming adults.

Methods: All participants were placed on a standardized metabolic diet and consumed 3 different types of fluid during three 5-day periods (Le Bleu water, caffeine-free Diet Coke, and Fresca [citrate containing]). The soda preparations were chosen to eliminate known increase in calcium promoted by carbohydrates and caffeine; 24-hour urine collections were collected on day 4 and day 5 of each sequence and analyzed.

Results: Urinary volumes were significantly higher and supersaturation of calcium oxalate significantly lower compared with a self-selected dietary regimen. A decrease in uric acid was seen in the Fresca cohort. No statistically significant differences were seen between the 3 fluid regimens for any of the urinary parameters.

Conclusions: There is no increased risk or benefit to consuming Fresca or caffeine-free Diet Coke compared to Le Bleu bottled water with respect to stone formation.

Reviewer's Comments: I really enjoyed this article comparing the stone formation risk of 3 different fluid regimens in normal controls. The study was well performed with a controlled metabolic diet with planned crossover (the "gold standard" of assessing metabolic responses to dietary intervention). The results showed that increasing fluid intake and urinary volume (which occurred in all subjects with all fluids on the controlled diet) decreased calcium oxalate saturation indices. Interestingly, the choice of fluid between Le Bleu water, Fresca, and caffeine-free Diet Coke did not have any significant differences except decreased uric acid during Fresca consumption. Therefore, increasing volume with sugar-free and caffeine-free fluids is a key to reducing calcium oxalate stone risk. Many urologists recommend decreasing cola consumption to prevent stones. IT IS IMPORTANT TO REMEMBER THAT PATIENTS SHOULD DECREASE CAFFEINE AND FRUCTOSE-CONTAINING BEVERAGES (ie, regular Coke and colas) since these will increase stone risk. However, soda itself does not affect stone risk and may be beneficial if individuals will drink more fluids with these beverages.

Additional Keywords: Dietary Management

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Improved SWL Outcomes With MET

Medical Expulsive Therapy as an Adjunct to Improve Shockwave Lithotripsy Outcomes: A Systematic Review and Meta-Analysis.

Schuler TD, Shahani R, et al:

J Endourol; 23 (March): 387-393

Medical expulsive therapy improves shock wave lithotripsy outcomes.

Objective: To determine if medical expulsion therapy (MET) after shock wave lithotripsy (SWL) improves outcomes.

Design: Systematic literature review and meta-analysis.

Methods: MEDLINE review of randomized studies comparing medical expulsive therapy to placebo or standard therapy after SWL.

Results: 4 randomized studies were identified. Two trials used tamsulosin, 1 used nifedipine, and 1 used Phyllanthus niruri extract. Two of the trials included renal calculi, 1 included only ureteral calculi, and 1 included both renal and ureteral calculi. A total of 212 patients received MET after SWL and 206 received placebo. A 17% absolute risk difference of successful outcome was discovered with the addition of MET. This means 6 patients would need to be treated with medical therapy to see the benefit in 1 patient. The effect of post-SWL therapy was more pronounced for stones >10 mm with an absolute risk difference of 26%.

Conclusions: Meta-analysis demonstrates a significant increase in successful treatment outcomes in patients treated with post-SWL MET.

Reviewer's Comments: This study provides a nice meta-analysis of MET used as an adjunct to SWL. It is reasonable to expect that passage of small stone fragments after SWL will be benefited by MET just as spontaneous stone passage has been shown in multiple studies to benefit from MET. The article confirms a significant benefit to MET after SWL, especially in stones >10 mm. Therefore, I believe adding MET after SWL is a good idea. However, even though meta-analysis studies are becoming a very popular way to determine recommended practices and I agree with the findings in the study, this is a very weak meta-analysis since we had very few studies that meet inclusion criteria. The studies reviewed also used different medications for met, making it difficult to make a firm recommendation on which one to prescribe. As stated by the authors, higher powered, randomized studies are needed in this area.

Additional Keywords: Medical Expulsive Therapy

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Single-Port Partial Nephrectomy

Single-Port Laparoscopic and Robotic Partial Nephrectomy.
Kaouk JH, Goel RK:
Eur Urol; 55 (May): 1163-1170

Single-port laparoscopic and robotic partial nephrectomy is feasible for select patients with small exophytic tumors.

Objective/Design: To prospectively analyze 5 patients who underwent laparoscopic partial nephrectomy and 2 patients who underwent robotic partial nephrectomy through a single port.

Methods: The tumors were exophytic and averaged 2.0 cm in diameter. The renal artery was not clamped during excision, which was performed with a harmonic scalpel. The laparoscopic cases were performed via transperitoneal access in 4 patients and retroperitoneal access in 1 patient depending on tumor location through a multichannel port. A 5-mm 0 degrees lens with a flexible tip; 5-mm bent laparoscopic grasper and 5-mm scissors were used. Hemostasis was achieved with argon beam coagulation, Surgicel, and fibrin glue. The robotic cases were performed with a multichannel gel port. This port accommodated the 10-mm 30 degrees robotic lens in the upward configuration and a 5-mm robotic trocar. Another 5-mm robotic trocar was placed through the same skin incision beside the gel port. Pediatric 5-mm robotic instruments were used.

Results: 1 of the laparoscopic cases required conversion from a single-port technique to standard laparoscopy to control bleeding. This patient experienced a 1200 cc blood loss and required a 2-unit packed red blood cell transfusion. Otherwise, the remainder of the cases were completed through a single-port with a mean blood loss of 420 cc for laparoscopic cases and 100 cc for robotic cases. Renal cell carcinoma was diagnosed in 6 of the 7 cases, and 1 patient had focally positive margins on final report despite negative frozen section results.

Reviewer's Comments: Although this technique is not ready for routine use by most urologists, this article represents cutting edge, minimally invasive urology. These surgeons obviously have extensive standard laparoscopic experience from which they are drawing on to perform these advanced single-port procedures. Patient selection for these single-port partial nephrectomies is also crucial. The patient that required conversion had an upper pole tumor that limited visibility and access. The authors have found that small exophytic, anterior, interpolar to lower pole masses are best suited for this technique. Of course, none of this would be possible without the technologic advances of articulating instrumentation. Look for the robot to play an increased role in this field.

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Laparoscopic Ureteral Reimplantation

Laparoscopic Ureteral Reimplantation: Technique and Outcomes.
Seideman CA, Huckabay C, et al:
J Urol; 181 (April): 1742-1746

Distal ureteral strictures can be managed with laparoscopic ureteral reimplantation.

Objective: To retrospectively review the records of 45 patients with distal ureteral pathology.

Participants/Methods: 40 patients had ureteral strictures due to various causes, including iatrogenic etiologies, which were the most common cause. Most of the iatrogenic strictures were due to gynecological surgery, which explains a 35-to-10 female predominance in this series. Five patients had distal transitional cell carcinoma and were treated with laparoscopic distal ureterectomy and reimplantation. Twenty-four patients underwent ureteroneocystostomy, while 21 patients required reimplantation with the Boari technique using an anterior bladder flap due to stricture length. All patients had a Foley catheter, ureteral stent, and pelvic drain placed at the conclusion of the procedures.

Results: The mean follow-up was 25.2 months. Mean stricture length was 3.0 cm (range, 1.0 to 6.0 cm). No conversions to open surgery occurred. The median hospital stay was 3 days, and median estimated blood loss was 150 mL. Three patients demonstrated an anastomotic leak that required prolonged urethral catheterization. Two patients had obstruction postoperatively, and 1 patient had a <1 cm stricture treated with endoureterotomy. The second patient ultimately required ileal interposition for recurrent long stricture formation. Another 2 patients ultimately underwent nephrectomy for recurrent malacoplakia and pyelonephritis. Overall, 7 complications in 5 patients occurred for a total complication rate of 15.5%. Four of 5 patients with complications underwent a Boari procedure. All patients underwent a refluxing reimplant and showed grade 1 or 2 reflux on follow-up studies. Laparoscopic ureteral reimplantation is an effective method of managing distal ureteral strictures.

Reviewer's Comments: This is the largest reported experience with laparoscopic ureteral reimplantation. I congratulate the authors on showing the efficacy of this technique. Most of the patients in this series underwent a simple refluxing ureteroneocystostomy. Refluxing reimplants are technically easier to perform and require less ureteral length. The distal ureter has multiple pelvic arterial branches relative to the proximal ureter. Recent porcine studies have shown that the distal ureter is more dependent on each of its segmental arterial branches suggesting a lesser developed arterial anastomosing plexus for the distal ureter. This implies that minimizing dissection of the ureter, especially the distal ureter, will decrease the risk of ischemia. The level of reconstructive complexity escalates quickly for longer distal ureteral strictures that require Boari flap construction to achieve a tension-free, well-vascularized, watertight anastomosis. It is likely that incorporating the robot in these highly technical procedures requiring extensive intracorporeal suturing will further improve laparoscopic ureteral reimplant efficacy.

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ACT Device May Be Effective for Female Stress Incontinence

The Adjustable Continence Therapy System for Recurrent Female Stress Urinary Incontinence: 1-Year Results of the North America Clinical Study Group.

Aboseif SR, Franke EI, et al:

J Urol; 181 (May): 2187-2191

The implantation of the ACT device appears to be an effective, simple, and safe minimally invasive treatment for recurrent female stress incontinence.

Objective: To determine the efficacy, safety, adjustability, and technical feasibility of the adjustable continence therapy (ACT) device.

Participants/Methods: All female patients with at least 6 months of prior treatment, either surgical or nonsurgical, for stress incontinence were considered for enrollment in this study examining the ACT device in 10 centers in the United States and 2 centers in Canada. Baseline preoperative tests included urinalysis, urodynamics, cystourethroscopy, provocative pad test, 3-day voiding diary, Stamey scores, direct visual stress test, and validated questionnaires (Incontinence Quality of Life, Incontinence Impact Questionnaire, and Urogenital Distress Inventory). All tests were repeated at 1 year, except for cystourethroscopy. The ACT device was placed bilaterally through 2 small incisions between the labia minora and labia majora at the level of the urethral meatus. After implantation, 1.5 cc of isotonic solution was injected fluoroscopically and used to confirm balloon positioning. The associated ports were placed in a subcutaneous, easily accessible location in each labium minora. Balloon adjustments were commenced at 6 weeks' postoperatively in the clinic by percutaneously assessing each subcutaneous port.

Results: 162 patients underwent ACT device implantation. The mean age was 67.4 years, and follow-up data at 1 year were available on 140 patients. The authors report that the Stamey score improved by at least 1 grade in 76.4% of patients. Mean provocative pad weight decreased in 85% of patients with a mean numeric improvement from 50 grams to 11 grams. The quality-of-life instruments improved in between 79% and 85% of patients, depending on which particular instrument was given. The mean number of balloon volume adjustments per device in the first year was 2.3. Eighteen percent of patients underwent explantation during the first year for a variety of reasons, including, from most to least common, port erosion, balloon migration, balloon erosion, and worsening incontinence.

Reviewer's Comments: The majority of complications are related to port erosion, urinary retention, balloon migration away from the bladder neck, and balloon erosion, which in most cases is erosion into the vagina. This is similar to previous published reports on the ACT device. Fortunately, most of these complications are simple to rectify in the office setting.

Additional Keywords: Adjustable Continence Therapy Device

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TVT Recommendable Surgical Tx for Female SUI

The 7-Year Outcome of the Tension-Free Vaginal Tape Procedure for Treating Female Stress Urinary Incontinence.

Song PH, Kim YD, et al:

BJUI; (March 13): epub ahead of print

The TVT procedure has a high cure rate with long-term follow-up. There are well-known associated complications with this procedure, most of which are relatively simple to correct, and the rate of complications seems to decrease over time.

Objective: To evaluate the long-term results and risk factors for the efficacy of the tension-free vaginal tape procedure.

Methods: Between March 1999 and March 2001, 364 consecutive women with a primary symptom of stress urinary incontinence (SUI) underwent a tension-free vaginal tape (TVT) procedure. Of the 364 patients (mean age, 50.7 years), 306 were available for follow-up at 7 years following surgery. The patients had clinic follow-up visits at 1 month, 1 year, and at 7 years after surgery. Preoperative evaluation included a medical history, physical examination, Q-tip test, stress test, 3-day voiding diary, 1-hour pad test, uroflowmetry, post-void residual measurement, and multichannel urodynamic studies. At follow-up visits, patients were evaluated with symptom review, stress test, satisfaction questionnaire, uroflowmetry with postvoid residual volume (PVR) measurement, and assessment of complications.

Results: Overall, 259 of the 306 evaluated patients were considered cured (85%) and 14% were improved. When the results were stratified by type of incontinence, the cure rates for pure stress incontinence were 86% and 78% for mixed urinary incontinence. The overall satisfaction rate was significantly higher in the group of women with pure stress incontinence, at 73% versus 54% in those with mixed incontinence. Seventy-one patients (23%) reported complications at the 1-month follow-up visit. Approximately 20% complained of de novo urgency and de novo urge incontinence that required medical therapy. However, by the 7-year follow-up, only 2.6% of patients reported continued complications.

Conclusions: According to the authors, "The absence of long-term adverse events associated with the TVT procedure, and high subjective and object 7-year success rates with no independent predictive factors affecting the long-term cure rate, make the TVT procedure a recommendable surgical treatment for female SUI."

Reviewer's Comments: In the present study, 46 patients developed de novo urgency at the 1-month follow-up, but only 2 continued to complain of de novo urgency at the 7-year follow-up. The remainder of the patients resolved their symptoms with anticholinergic medication. It is noteworthy that there is a disparity between the stress incontinence cure rate and the satisfaction rate, and that this disparity is related to the development of urinary storage symptoms.

Additional Keywords: Tension-Free Vaginal Tape Procedure

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Hyperthyroidism Etiological Risk Factor for PE

The Relationship Between Premature Ejaculation and Hyperthyroidism.

Cihan A, Demir O, et al:
J Urol; 181 (March): 1273-1280

Hyperthyroidism should be considered a potentially reversible risk factor for premature ejaculation.

Objective: To elucidate a possible relationship linking hyperthyroidism to premature ejaculation (PE), and further explore how achievement of a euthyroid state may resolve this and related symptoms such as anxiety.

Design: Prospective study conducted at a single center.

Participants: Each study patient served as his own control when comparing PE in a hyperthyroid or euthyroid state. Study participants included 49 hyperthyroid males without previous treatment for hyperthyroidism.

Methods: Participants underwent detailed sexual history, hormonal assessment (thyroid stimulating hormone [TSH], free triiodothyreonine [fT3], and free tetraiodothyronine [fT4]), and evaluation for PE according to DSM 4 criteria, ejaculatory control, anxiety, erectile function and intravaginal ejaculatory latency time (IELT). Following evaluation, eligible participants were treated for hyperthyroidism and then re-evaluated following achievement of euthyroidism.

Results: Nearly 3 out of 4 eligible patients were found to have PE. Over 50% of patients followed up once in the euthyroid state and were found to have a statistically significant improvement in PE as measured by IELT. Sixty-six percent of these patients were considered to have definite PE, using a strict definition of IELT <60 seconds, and were found to have the greatest prolongation of mean IELT (37 to 105 seconds). Anxiety levels improved significantly and TSH levels were found to correlate with IELT.

Conclusions: Premature ejaculation frequently coexists with hyperthyroidism. Patients with PE had improvement of IELT after treatment for hyperthyroidism. The improvement of PE in many patients treated for hyperthyroidism implies a clinical relationship and defines hyperthyroidism as treatable cause of PE.

Reviewer's Comments: This paper helps establish hyperthyroidism as an etiological risk factor for premature ejaculation (PE), which remains the most common sexual disorder in men. The study does well to establish this relationship, but the fact that it is under-powered and suffers from significant attrition bias (19 of 43 subjects) prevents one from drawing further conclusions. The treatment of hyperthyroidism resulted in improvement in PE, but the mechanisms of how this may occur remain unelucidated. How much of a role does anxiety itself play in PE? How does this relate to previously postulated mechanisms explaining hyperthyroidism/PE mechanisms: sympathetic hyperactivity, serotoninergic neurotransmission excess, or epididymal paracrine systems involving testosterone/estrogen ratios? Regardless, we see another example of how problems in general health can manifest in sexual dysfunction.

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Morphologically Normal Sperm Can Have DNA Fragmentation in Infertile Men

Fragmentation of DNA in Morphologically Normal Human Spermatozoa.
Avendano C, Franchi A, et al:
Fertil Steril; 91 (April): 1077-1084

Morphologically normal sperm in infertile men demonstrates DNA fragmentation with a high proportion of DNA damage, whereas no DNA fragmentation is found in morphologically normal sperm in a fertile control group.

Objective: To assess DNA damage in morphologically normal sperm from fertile and subfertile men.

Design: Prospective study.

Participants: 3 groups of men were evaluated: a fertile group (n=4) that all had children within the last 2 years; a subfertile group (n=5) being evaluated for infertility of at least 1 years duration, and an infertile group (n=10) with a known isolated morphology deficit requiring intracytoplasmic sperm injection (ICSI) as they had failed intrauterine insemination with controlled ovarian hyperstimulation.

Methods: Optimally motile spermatozoa from semen samples of all subjects were selected via swim-up techniques. These sperm were then simultaneously assessed for DNA fragmentation via triphosphate-fluorescein nick-end labelling (TUNEL) assay in addition to morphology using phase-contrast microscopy.

Results: Semen analysis revealed no differences in sperm concentration or motility between the 3 groups. Infertile and subfertile men had decreased percentage normal morphology when compared to fertile men. No sperm with normal morphology from fertile men (0/4) had DNA fragmentation. One subfertile man's specimen (1/5) revealed DNA fragmentation in morphologically normal sperm. All infertile mens' specimens (10/10) revealed DNA fragmentation in normally shaped sperm.

Conclusions: Infertile men with teratozoospermia may have significant DNA damage in sperm that appear morphologically normal.

Reviewer's Comments: The impact of paternal sperm DNA integrity continues to be elucidated. DNA fragmentation has been implicated (but not found to be definitively causative) in problems with fertilization, early embryo quality, progression in pregnancy, and miscarriage. Concerns regarding ICSI-related genetic and epigenetic abnormalities also cause one to consider the possible role of sperm DNA integrity. This elegantly performed study raises the issue of an overall field effect in men with teratozoospermia. Based on the results of this study, many of the sperm likely to be hand-picked by embryologists that appear normal and are highly motile may be destined to fail. The authors set the stage for the development of new sperm selection methodologies (ensuring both normal morphology and DNA integrity) that likely would yield higher normal pregnancy success rates.

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