Welcome to the inaugural issue of *Urology in Practice*, a new quarterly offering from the USC Institute of Urology.

Over the years, various practicing urologists have expressed to me their interest in a publication addressing a practical, day-to-day need: cutting-edge management of common clinical scenarios. *Urology in Practice* is born out of this unmet need.

Each issue will present four to five interesting, real-life clinical cases, straightforward and complex, and how we managed them. The entire field of urology will be covered.

Because our goal is the cutting-edge practice of urology, we will focus on the practical, not the theoretical. We strongly believe that together, we can explore and move faster in the laboratory, clinic and operating room. As such, if you have an interesting case, please submit it; if selected for publication, we will credit you.

The historical distinctions between “town and gown” are … historical! Moving forward, we seek to create, within these pages, a collegial and friendly partnership in which we all learn from each other. Our patients will be the beneficiaries.

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**Inderbir S. Gill, MD**
Professor & Chairman, Catherine & Joseph Aresty Department of Urology Executive Director, USC Institute of Urology Associate Dean, Clinical Innovation Keck School of Medicine of USC

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**Editor’s Corner**

Welcome to *Urology in Practice*, a publication from the USC Institute of Urology.

Hot points in *UIP*:
- Available on hard copy and online
- urology.keckmedicine.org/UIP
- Focuses on clinical cases from all aspects of urology
- Updates on basic and clinical urology research
- Newscast from the USC Institute of Urology
- Special issues on topics of interests

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**Hooman Djaladat, MD, MS**
Associate Professor of Urology Editor, *Urology in Practice* Keck School of Medicine of USC

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  - Artificial Urinary Sphincter Placement After Radical Cystoprostatectomy
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  - Management of Large Interpolar AML of Kidney

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**Live From L.A.!
From the Chair’s Operating Room**

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The historical distinctions between “town and gown” are … historical! Moving forward, we seek to create, within these pages, a collegial and friendly partnership in which we all learn from each other. Our patients will be the beneficiaries.
Bothersome Lower Urinary Tract Symptoms After Midurethral Sling

LEARNING OBJECTIVES:
1. To recognize obstructive voiding symptoms following anti-incontinence surgery
2. Understand the workup of refractory irritative voiding symptoms

CASE:
MW is a 63-year-old female referred to USC with urinary frequency/urgency refractory to medical therapy. The symptoms began soon after she underwent a mid-urethral TVT sling for stress urinary incontinence at an outside facility 13 months previously. Prior to her sling surgery she experienced stress urinary incontinence without any irritative symptoms. She also reported the need to double void at times in order to completely empty her bladder. Prior therapy included pelvic floor therapy, tolterodine, solifenacin and the recently approved beta-agonist, mirebegron. Her post-void residual was 80 cc and urinalysis and urine culture were negative. A voiding diary revealed her voiding every 2-3 hours during both day and night, with voided volume ranging from approximately 150-250 mL.

WHAT WE DID:
To further evaluate her, she underwent pressure-flow urodynamics. The filling portion of the study demonstrated normal compliance and detrusor overactivity. The voiding portion of the study demonstrated some abdominal recruitment with voiding, a detrusor pressure at max flow (Qmax) of 34 cm H2O and a Qmax of 8.5 cc/s. This places her in the equivocal range of the pressure-flow nomogram as determined urodynamically (Fig. 1,2). Cystoscopy demonstrated no evidence of foreign body or mesh. Because of the patient’s clinical presentation with symptoms beginning after her incontinence surgery as well as her urodynamic findings, the decision was made to proceed with sling incision. Her sling was incised without difficulty as an outpatient. Post-incision, she noted a complete resolution of her frequency/urgency and improved force of urinary stream. She has noted occasional (1-2 times/week) leakage with stress maneuvers, which at this time she does not find to be bothersome and for which she is not interested in pursuing therapy.

DISCUSSION:
Patients who undergo sling procedures for stress urinary incontinence are at risk for obstruction following surgery. The presentation of de-novo frequency, urgency and weak urinary stream following sling placement should trigger the practicing urologist to think about outlet obstruction as the cause of symptoms. Special attention should be paid if they give a history of urinary retention immediately following surgery. A trial with anticholinergics is reasonable as initial management in patients with de-novo OAB symptoms, but if failure occurs, obstruction from a prior surgery could be a potential cause of their complaints. Although patients should be counselled that de-novo urge symptoms following sling placement could occur, the combination of urge symptoms and obstructive voiding pattern should trigger an additional workup. Complex cystometrogram and pressure-flow studies should be considered, with special attention paid for the presence of detrusor overactivity and/or obstruction. Urodynamics are especially helpful if the patient underwent a preoperative study that showed no evidence of detrusor overactivity and has an unobstructed voiding pattern. It is important to appreciate that the pressure-flow nomograms are designed for use in male patients only with bladder outlet obstruction; care must be used in interpretation in female patients. Women void with lower detrusor pressures than men and may void solely with pelvic floor relaxation; therefore, voiding pressures that define obstruction in men are not equivalent in women. There is no universal, agreed-upon definition for obstruction in females. Most studies would suggest that a detrusor pressure at max flow >25 cm H2O with a Qmax of <12 cc/second is indicative of obstruction. Although there is a risk of recurrent stress incontinence following sling incision (approximately 20%), the procedure may result in resolution of frequency and urgency related to obstruction.

In summary, patients presenting with OAB symptoms following midurethral sling placement should undergo cystoscopy with careful examination of the urethra as well as a vaginal exam to search for any evidence of mesh erosion or extrusion that could be contributing to their symptoms. Urodynamics can be performed to evaluate for detrusor overactivity or evidence of obstruction on pressure-flow studies. Overall, the best indicator that a patient may be obstructed following sling placement is a temporal relationship between onset of symptoms and placement of sling.

References:
Left Kidney Cancer with Massive IVC Thrombus

LEARNING OBJECTIVES:
1. Thoracoabdominal incision, rather than midline incision, is the best surgical approach for intrahepatic/suprahepatic inferior vena cava thrombosis which allows access to chest
2. Surgeons need to pay special attention to possibility of liver congestion and be familiar with surgical techniques such as Pringle maneuver to prevent it

CASE:
43-year-old male presented with a one year history of an enlarging abdominal mass, 20-pound weight loss, and recent start of gross hematuria. A CT scan revealed a 22 x 14 x 23 cm left renal mass with tumor thrombus extending across an extremely dilated left renal vein into the vena cava with extensive secondary abdominal and pelvic collateral vessels. The inferior vena cava (IVC) was significantly dilated and packed with tumor, measuring well over 10 cm, up to the intrahepatic portion (level III). (Fig 1)

WHAT WE DID:
The tumor was approached using a right thoracoabdominal incision in order to have access to the suprarenal cava. All the bowels were mobilized to obtain the ideal exposure to the retroperitoneum. The IVC and right kidney were mobilized and the right renal vein skeletonized. The mass was then completely mobilized inferiorly, posteriorly from the psoas muscle and superiorly from the spleen and distal pancreas. The enormous left renal vein was then mobilized all the way to the IVC junction. The cava was dissected superiorly to the level of the intrahepatic IVC. The liver was completely mobilized to the left side by taking down all collateral ligaments to identify the superior extent of the thrombus and obtain superior IVC control with a Satinsky clamp just below the entry of hepatic veins. (Fig 2-5)

Cavotomy and thrombectomy were performed after cross clamping the subdiaphragmatic IVC, infrarenal IVC, right adrenal vein, and right renal artery and vein, preserving some of the lumbar veins. A suprarenal cavectomy was performed just below the hepatic veins due to apparent caval wall invasion. Warm ischemia time was 24 minutes. The IVC was then reconstructed allowing the right renal vein to drain retrograde into the vena cava and the large lumbar vessels inferiorly and the adrenal vein to drain directly into the intrahepatic portion of the IVC superiorly. Total operative time was 12 hours and estimated blood loss was 1,500 ml.

The patient recovery was unremarkable, and he was discharged on POD #4 with no lower extremity edema. Pathology revealed a 24 cm Grade 3/4 chromophobe renal cell carcinoma focally invading the intimal wall of the vena cava, with negative margins and no lymph node involvement (0/42). He regained 30 pounds over the next few months and returned to work. His four-month follow-up CT of the chest, abdomen and pelvis revealed no evidence of recurrence.

DISCUSSION:
Four to 10% of RCCs have a tumor thrombus within the renal vein and/or IVC, and fewer than 1% have extension into the right atrium. Level II/III thrombi are usually approached through a right thoracoabdominal incision allowing access to the chest, and superior vena cava vascular control is obtained at the cavo-atrial junction through a pericardotomy. Liver transplant techniques such as mobilization of the right lobe of the liver exposes the retrohepatic and suprahepatic IVC to allow clamping above the cephalad extent of the thrombus and below the entry of hepatic veins to avoid liver congestion. The Pringle maneuver is also used to control hepatic flow when the suprahepatic IVC is clamped. Both these techniques can be used with a single surgical team (urology) approach.

References:
CASE:
A 63-year-old male underwent radical cystoprostatectomy and orthotopic ileal neobladder diversion. One year after surgery, he complains of urinary incontinence. Though he was dry during the day, he noted leakage in the late evening — often after dinner or nodding off while watching television — and at night. Review of imaging showed no evidence of recurrence or hydronephrosis, and he has not had any urinary infections after surgery. A cystourethroscopy showed no evidence of anastamotic stricture, inspissated mucous, pouch stones or mucosal hyperemia. Capacity is measured at 550 mL, and a post-void residual measured 30 mL.

WHAT WE DID:
After preparation and draping in lithotomy position, a 16 Foley was placed. A perineal incision was made and the urethra and corpora cavernosa exposed. The bulbospongious muscle was reflected posteriorly, maximizing visualization and allowing measurement for the AUS cuff at the divergence of the corpora. (Fig. 1, 2, 3) A small inguinal incision allowed dartos pouch creation in the inferior scrotum. A third incision was made just medial to the iliac crest (superolateral in image) to create a lateral retroperitoneal pocket for placement of a 61-70 cm H2O pressure-regulating balloon (PRB). (Fig. 4, 5) Component tubing was brought through the inguinal incision for connection. The bulbospongious muscle was reattached and a closed-suction drain placed. After skin closure, light pressure dressings were placed. The Foley catheter and drain were removed the following morning.

DISCUSSION:
Nocturnal incontinence resulting from the absence of neurologic feedback and the sphincter-detrusor reflex affects up to 50% of men after orthotopic neobladder construction. This commonly manifests as loss of urine in the late afternoon or evening or as incontinence while sleeping. Around 5% of men will have significantly bothersome diurnal and nocturnal incontinence.

Cystourethroscopy can reveal inspissated mucous, pouch stones or pouchitis. Anastamotic stricture and problems with neobladder compliance or capacity are infrequently encountered; thus, formal urodynamics is rarely necessary. Determination of a post-void residual rules out failure to empty, which occurs in ~9% of men.

Without a functional detrusor, urethral bulking agents and male slings — which work via extrinsic obstruction or urethral repositioning — are not viable surgical options. The placement of an AUS can provide significant improvement in a patient’s quality of life. After prior pelvic cancer surgery, blind placement of the PRB in the subinguinal or retropubic space is contraindicated. Placement in the lateral retroperitoneum eliminates the risk of component erosion into the neobladder or bowel contents within the pelvis. Our approach with three small incisions adds minimal morbidity, has no increased risk of infection and facilitates subsequent surgery if revision is necessary.

Following a deactivation period, patients are taught use of the AUS and must obtain a medical identification tag. Patients with isolated nocturnal incontinence may activate their AUS during the evening and night while deactivating it during the day. Those with both daytime and nighttime incontinence can use it continuously. Patients should empty their neobladders with regular frequency and at least once nightly in order to limit neobladder overdistension, which can impair emptying over time. Follow-up and surveillance cystoscopy are recommended in order to ensure stability of urinary symptoms, absence of foreign bodies within the neobladder and health of the urethra.

References:
**LEARNING OBJECTIVES**

1. To review the clinical presentation and diagnosis of angiomyolipoma.
2. To discuss the treatment options of patients with angiomyolipoma.

**CASE:**

A 41-year-old healthy female presented with flank pain and bilateral renal masses (right 4 cm, left 7 cm), both consistent with angiomyolipoma (AML) on a CT scan. She requested definitive therapy. In 2013, we performed anatomic zero-ischemia right robotic partial nephrectomy, preserving 90% of that kidney. Eight months later, the left AML had increased to 9 cm, replacing the full thickness of the entire middle half of the left kidney, extensively invading the hilum and enmeshed within the branches of the main renal artery, vein and collecting system. (Fig. 1) Her serum creatinine was 1.1 mg/dL, eGFR > 60 and her MAG-3 renal scan showed a 50-50 split function.

**WHAT WE DID:**

We performed a robotic left partial nephrectomy with complex intra-renal reconstruction of the upper pole vasculature and collecting system. After preparing the main renal artery/vein, the distal vascular branches and pelvi-calyceal system were dissected off the AML. The tumor was circumferentially scored using laparoscopic ultrasonography. The main renal artery and vein were controlled with bulldog clamps, dissected off the AML. The tumor was delicately excised from the adjacent parenchyma. (Fig. 2) Inspection of the central sinus fat revealed a transected upper-pole intra-renal artery (2 mm diameter), which was spatulated and re-anastomosed end-to-end with 6-0 silk suture. A transected intra-renal, upper-pole calyx was anastomosed end-to-end with 4-0 vicryl over an antegrade double-J stent. Upon unclamping, excellent global perfusion, and flow through the reconstructed intra-renal artery, was confirmed.

Warm ischemia time was 20 minutes, total operative time 4.5 hours, blood loss was 150 cc, 70% of the kidney was preserved and the hospital stay was four days. The final pathology was AML with negative margins. There were no complications.

**DISCUSSION:**

AML is perhaps the only benign renal tumor that can be diagnosed preoperatively on cross-sectional imaging with reasonable confidence. Presence of intra-tumor fat with a value of -20 Hounsfield units or less is diagnostic for AML. Other diagnostic considerations include liposarcoma and fat-containing RCC. AMLs larger than 4 cm are at increased risk of hemorrhage, yet even large AMLs can remain asymptomatic for many years. In general, the size of the AML represents a continuum of risk, and should not be an absolute indication of a specific management. Treatment options include active surveillance (for smaller AMLs), TKIs, selective angio-embolization (may not be ideal for larger AMLs), probe-ablation and excision (ideally, partial nephrectomy). Because the presumed diagnosis is a benign tumor, all efforts are made for nephron-preservation.

Given the extreme anatomic complexity of this particular left renal mass (and possibility of radical nephrectomy), we sought to first optimally secure the easier right kidney with a zero-ischemia partial nephrectomy. After full recovery of the right kidney, we proceeded with robotic left partial nephrectomy, with the patient clearly understanding that a radical might occur. A complication-free recovery ensued, with an ultimate serum creatinine of 1.07 mg/dL.

**References:**

Methylation markers may play a role in cyclophosphamide-induced chronic cystitis in mouse model.


Urothelial carcinoma is characterized by a high rate of recurrence, and the presence of a field defect has been postulated. In this study, we compared the DNA methylation patterns between non-invasive and invasive UC and the DNA methylation patterns between normal-appearing urothelium from bladders with cancer and cancer-free bladders. We found distinct patterns of hypomethylation in the non-invasive tumors and widespread hypermethylation in the invasive tumors, confirming that the two pathways differ epigenetically in addition to genetically.


The characterization of the genetic alterations associated with urothelial carcinoma has revealed the presence of two mutually exclusive molecular pathways along which distinct genetic abnormalities contribute to the formation of invasive and non-invasive tumors. Here, we focus on the epigenetic alterations found in urothelial carcinoma, including the presence of an epigenetic field defect throughout bladders with tumors and its potential target for future therapies.

Non-muscle invasive bladder cancer, characterized by a high rate of recurrence, is a high-cost disease in cancer management. Given their stable, reliable and early appearance, we analyzed DNA methylation changes in urine sediments serially collected from individual TURBT patients at the time of follow-up visits. The incorporation of both hyper- and hypo-DNA methylation profiles showed the ability of functional markers to predict tumor recurrence with high sensitivity and specificity and highlighted the translational implications of their use.

New urine markers can help to diagnose bladder cancer/ recurrence much earlier.


This study’s goal was to determine whether epigenetic changes occur during cyclophosphamide-induced chronic bladder inflammation in mice. In this study, DNA methylation changes were noted in the Calca, Timp3, Mmp2, and Igf2r genes during chronic cystitis in a murine model. Epigenetic changes appear to play a role in the regulation of inflammatory bladder genes during chronic cystitis.


Methylation changes in bladder cancer have the potential for targeted therapy.

HOUMAN DJALADAT, MD, MS
Associate Professor of Urology
Dr. Djaladat did his medical school and urology residency at Tehran University of Medical Sciences, Tehran, Iran. He didn an endourology & laparoscopy fellowship at the prestigious Labbafinejad Medical Center. Upon moving to the US in 2010, he completed a formal SUO-approved urologic oncology fellowship at USC. He recently completed his masters in clinical research and biomedical investigation at USC.

An expert urologic oncologic surgeon, Dr. Djaladat focuses on bladder, kidney and testis cancer and major reconstructive, pelvic and retroperitoneal surgery. He has published over 40 peer-reviewed articles and book chapters and is a reviewer for many urology journals. Dr. Djaladat has invented a new Foley catheter for prostatectomy patients (patent filed).

LEO R. DOUMANIAN, MD
Associate Professor of Urology
Dr. Dounamian specializes in complex surgeries for traumatic, iatrogenic and radiation-induced G.U. injuries and congenital & acquired diseases of the lower urinary tract and male genitalia. Particular interests include reconstruction of pelvic fracture urethral distraction defects (PFUDD), urethral strictures, penile curvatures, recto-urethral fistulae. He is an expert in skin, lingual & buccal grafts, and advanced muscle & tissue flap transplants. He brings extensive expertise in male incontinence, erectile dysfunction and neurogenic voiding dysfunction management to USC Urology.

GERHARD J. FUCHS, MD, FACS
Professor of Urology
Executive Director, USC Institute of Urology (Beverly Hills); Executive Director, Men’s Health Center; Director of Education & Quality Assurance

An internationally renowned urologist, Dr. Fuchs is a researcher & educator with a track record of over 3 decades. Gerhard was recruited to USC from Cedars-Sinai Medical Center in Los Angeles where he was Medallion Chair & director of urology and vice chairman, department of surgery. He was at Cedars-Sinai for 15 years, where he started and directed their urology residency & fellowship programs. Prior to that, Gerhard was faculty at the Geffen UCLA School of Medicine for 15 years, where he rose to professor and section chief of endourology, stone disease & laparoscopy.

A pioneer of extracorporeal shockwave lithotripsy (ESWL), Dr. Fuchs established the first ESWL treatment center in the western United States. An internationally sought-after lecturer, he has spearheaded teaching programs in ureteroscopic, percutaneous & retrograde intra-renal surgery nationally & internationally. He serves on editorial boards of several urology journals. Dr. Fuchs has been awarded honorary memberships by the national urologic associations of Chile, Costa Rica, Malaysia, Mexico, Paraguay.
Dr. Nguyen is an expert in robotic surgery for kidney & prostate cancer and management of complex kidney stones. He has over 30 peer-reviewed articles and is funded by the National Institutes of Health. An innovator in the field of health promotion in urology, Dr. Nguyen is particularly interested in developing novel prevention approaches for prostate cancer & kidney stones. Dr. Nguyen founded and runs the popular KidneyStones.org website for kidney stone patients, which attracts over 50,000 visitors a month.

Dr. Hung did his fellowship in advanced robotic & laparoscopic surgery at University of Southern California. He did his undergraduate studies with honors at Yale University, medical school at Well Medical College of Cornell University and Urology residency at USC. A recognized leader in robotic surgical simulation & training, Dr. Hung is developing & validating innovative surgical simulation technologies. Along with Dr. Gill, he is developing the first ever procedure-specific simulation for robotic surgery. Dr. Hung is principal investigator of several funded studies at USC that are exploring and evaluating novel methods of robotic training.

And Germany.

ANDREW J. HUNG, MD
Assistant Professor of Urology
Associate Residency Program Director; Director, Robotic Simulation & Education

Dr. Hung did his fellowship in advanced robotic & laparoscopic surgery at University of Southern California. He did his undergraduate studies with honors at Yale University, medical school at Well Medical College of Cornell University and Urology residency at USC.

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Mike M. Nguyen, MD, MPH
Associate Professor of Urology

Dr. Nguyen was recruited to USC from the University of Arizona, where he was director of minimally invasive urology for 5 years. He did his medical school & urology residency at UC Davis, fellowship in minimally invasive surgery at Cleveland Clinic and masters in public health at UCLA.

Dr. Nguyen is an expert in robotic and Germany.

MAY SAMPKILISKI, MD
Assistant Professor of Urology
Director, Section of Male Infertility

Dr. Sampkilsiki did her fellowship in male infertility at the University of Toronto, Canada. She completed her medical school at the George Washington University School of Medicine and her urology residency at the Cleveland Clinic. Her numerous honors include American Society of Andrology Trainee Travel Award (2013 & 2014), Society for Male Reproduction & Urology Traveling Scholar (2013), Arnold Belker Traveling Fellow (2013) and Outstanding Trainee Investigator Award, American Society of Andrology (2013).

A specialist in male reproductive medicine, microsurgery & andrology, Dr. Sampkilsiki’s expertise includes various aspects of male reproductive health, fertility preservation, vasectomy/reversals, low testosterone, erectile & sexual dysfunction, Peyronie’s disease, testicular pain and fertility in spinal cord injury patients. She specializes in microsurgical vasectomy reversal, advanced sperm retrieval techniques, microscopic varicocele repair, penile vibratory stimulation, electro-ejaculation and spermatic cord denervation.

LARISSA RODRIGUEZ, MD
Professor of Urology, Professor of Obstetrics & Gynecology
Vice Chair (Academics) Director, USC Female Pelvic Medicine & Reconstructive Surgery (Beverly Hills); Director, FPMRS Fellowship at USC

Dr. Rodriguez is one of the foremost-surgeon-scientists in the field of female pelvic reconstruction and pelvic medicine (FPMRS) in the country. A faculty member at UCLA for the past 14 years where she rose to professor of urology, Larissa was recently recruited to USC to build & direct a premiere fellowship program, amongst a select handful to train both urologists and gynecologists.

Dr. Rodriguez’s awarded work in the field of stem cell research and tissue engineering has garnered national and international recognition. Larissa has developed innovative strategies for treatment of stress incontinence, bladder/urethral reconstruction and vaginal prolapse.

Larissa has published over 70 scientific papers and is co-editor of Female Urology (3rd edition), an essential textbook in the field. Her appointments include consultant, WHO-ICUD International Consultation on Incontinence, chair, Young Investigators Committee; member, AUA Foundation Research Council. Dr. Rodriguez was awarded the prestigious Ziskind Award by the Society of Female Urology and Urodynamics and is listed amongst America’s Top Urologists (2012–present).

How to Obtain CME Credits by Reading this Issue

INSTRUCTIONS
1. Review the stated learning objectives, faculty disclosures and core competencies of the CME articles and determine if these objectives match your individual learning needs.
2. Read the articles carefully. Do not neglect the tables and other illustrative materials, as they have been selected to enhance your knowledge and understanding.
3. The following quiz questions have been designated to provide a useful link between the CME articles in the issue and your everyday practice. Read each question, choose the correct answer, and record your answer on the CME Registration Form at the end of the quiz. Retain a copy of your answers.
4. Type or print your full name, email address, mailing address and your Medical License number in the space provided on the CME Registration Form.
5. Complete the evaluation portion of the CME Registration Form. Forms and quizzes cannot be processed if the evaluation portion is incomplete. The evaluation portion of the CME Registration Form will be separated from the quiz upon receipt at Keck School of Medicine of USC, Office of CME. Your evaluation of this activity will in no way affect the scoring of your quiz.
6. Send the completed form, with your $45 payment (check, money order or credit card information) to the Keck School of Medicine of USC, Office of CME, 1540 Alcazar Street, CHP 223, Los Angeles, CA 90033; fax to 888-665-9650 or email to uscme@usc.edu. Payment should be made in US dollars drawn on a US bank. You may use a PROMO code (USCUROLOGY) to waive that fee if you like.
7. Your answers will be graded, and you will be advised whether you have passed or failed. Unanswered questions will be considered incorrect. A score of at least 70% is required to pass and obtain CME credit.
8. Be sure to mail CME Registration Form on or before the deadline listed (up to 12 months since publication). After that date, the quiz will close. Any CME Registration Form received after that date will not be processed. Please contact the Office of CME with any questions 1-800-USC-1119.
9. Indicate the total time spent on the activity (reading article and completing quiz). Forms and quizzes cannot be processed if this section is incomplete. All participants are required by the accreditation agency to attest to the time spent completing this activity.

CME ACCREDITATION
This CME activity is primarily targeted at Local, Regional, National, and International specialty physicians (Urology, Radiation Oncology, Oncology) and all other allied healthcare professions interested in the subject matter. There are no specific background requirements for participants taking this activity. Learning objectives are found at the beginning of each CME article.

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The Keck School of Medicine of USC is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CREDIT DESIGNATION
The Keck School of Medicine of USC designates this journal-based CME activity for a maximum of 4 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

FULL DISCLOSURE POLICY
In accordance with the Accreditation Council for Continuing Medical Education’s Standards for Commercial Support, all CME providers are required to disclose the activity audience the relevant financial relationships of the planners, teachers, and authors involved in the development of CME content. An individual has a relevant financial relationship if he or she has a financial relationship in any amount occurring in the last 12 months with a commercial interest whose products or services are discussed in the CME activity content over which the individual has control. Author financial relationship information appears at the beginning of each CME-accredited article in this issue.

Financial disclosures: Dr. Hoosan Djuladat has no relevant financial relationships to disclose. The CME planners have nothing to disclose.

UNLABELED AND INVESTIGATIONAL USAGE
The audience is advised that this continuing medical education activity may contain references to unlabeled uses of FDA-approved products or to products not approved by the FDA for use in the United States. The faculty members have been made aware of their obligation to disclose such usage.
Questions 1 through 4 are from the article “ bothersome lower urinary tract symptoms after midurethral sling”

1. What is the next step in the workup of this patient?
A. Pressure-flow urodynamics.
B. Cystoscopy.
C. Administration of onabotulinumtoxin.

2. An “equivocal” pressure-flow nomogram result in a female patient could actually represent clinical obstruction?
A. True.
B. False.

3. What constitutes bladder outlet obstruction in a female?
A. Pdet 100 Qmax <10.
B. Pdet 20 Qmax <12.
C. Pdet 20 Qmax <12.

4. What is the approximate risk for recurrent SUI following sling incision?
A. 15%.
B. 20%.
C. 50%.

Questions 1 through 4 are from the article “Artificial Urinary Sphincter Placement After Radical Cystoprostatectomy”

9. Which can be causes of urinary incontinence after neobladder formation?
A. Foreign body
B. Pouch infection
C. Impaired compliance
D. Absence of neurologic reflex pathways
E. All of the above

10. Approximately how common is nocturnal incontinence in men after neobladder formation?
A. 2%
B. 10%
C. 20%

11. In men, urethral bulking agents and male urethral slings are effect surgical treatments for incontinence after neobladder formation.
A. True
B. False

12. Where should the pressure-regulating balloon during AUS placement after radical cystoprostatectomy?
A. Sacrum
B. Space of Retzius
C. Lateral Retroperitoneum
D. Femoral Canal

Questions 5 to 12 are from the article “Left Kidney Cancer with Massive IVC Thrombus”

5. What percentage of RCCs present with tumor thrombus?
A. Up to 10%
B. 20%
C. 30%
D. 50%

6. Level II IVC thrombus, as opposed to level III thrombus, are usually approached through midline incisions.
A. True
B. False

7. Mobilization of the right lobe of the liver is an appropriate technique for better access to intra and suprarehepatic IVC thrombus
A. True
B. False

8. Liver transplant techniques and Pringle maneuver during IVC thrombectomy should be done by a separate surgical team
A. True
B. False

Questions 5 through 8 are from the article “Management of Large Inter-polar AML of Kidney”

13. Typically, at what size should AMLs be treated?
A. 2 cm
B. 4 cm
C. 6 cm
D. 8 cm

14. In this case, which kidney would you treat first?
A. Right kidney
B. Left kidney

15. How would you handle this left 5 cm intra-renal, inter-polar renal mass?
A. Open radical nephrectomy
B. Open partial nephrectomy
C. Minimally invasive radical nephrectomy
D. Minimally invasive partial nephrectomy

Questions 9 through 15 are from the article “Midurethral Slings: Lower Urinary Tract Symptoms”

CME Quiz
Upcoming Events at USC Urology:

**7th International Symposium on Focal Therapy and Imaging in Prostate and Kidney Cancer**

*Being held at USC UROLOGY from August 21-23, 2014*

http://www.focaltherapy.org

This course includes scientific sessions on focal therapy of the prostate and kidney, with special focus on imparting ‘hands-on’ training to practicing urologists and urologic trainees on how to read prostate MRIs, how to perform targeted prostate biopsies and more. Live surgical demonstrations will allow a more direct and interactive participation.

**Small Renal Mass 360°— An AUA Surgical Summit**

*October 23–25, 2014*

AUAnet.org/SRM360

In this first-of-its-kind program, the AUA assembles thought leaders in urology to present a 360° view of the latest contemporary issues pertaining to small renal masses, including pathology, epidemiology, practice patterns, needle biopsy, active surveillance and surgical techniques/outcomes of partial nephrectomy (robotic, laparoscopic, open) and thermal ablation (cryotherapy, RFA, HIFU).

This unique summit will have two distinct components:

- **DAY ONE (Thursday) Consensus Conference on the Small Renal Mass (SRM).** This didactic program features in-depth presentations by 30+ key opinion leaders covering the current state of knowledge. To maximize the reach of this unique summit, it will be streamed live across the globe from the University of Southern California.

- **DAYS TWO–THREE (Friday–Saturday) Renal Mass Hands-on Labs.** These labs will be held simultaneously in five host cities across the United States.

For more information on the USC Institute of Urology or our upcoming events, please contact Regina Rezex at rezex@med.usc.edu.

*Take the Quiz Online* https://cmetracker.net/KECKUSC/Enduring?eventid=32212