



Society for Fetal Urology

International Maternal/Fetal Organization

Volume 12, Number 1, Winter 2005

Executive Committee

Andrew J. Kirsch, M.D.
President

Mark P. Cain, M.D.
President Elect

Christopher S. Cooper, M.D.
Secretary/Treasurer

Bradley J. Kropp, M.D.
Past President

Hiep 'Bob' Nguyen, M.D.
Member at Large

Thomas F. Kolon, M.D.
Member at Large

C.D. Anthony Herndon, M.D.
Member at Large

Walid Farhat, M.D.
International Member at Large

C.K. Yeung, M.D.
International Member at Large

Kris Greiner
Administrative Coordinator

Administrative Office

The University of Iowa
Department of Urology
200 Hawkins Drive, 3 RCP
Iowa City, IA 52242-1089

kristina-greiner@uiowa.edu
christopher-cooper@uiowa.edu

34th Biannual Meeting
May 20, 2005, 1-5 pm
Henry B. Gonzalez
Convention Center,
San Antonio

Meeting details inside, and
at www.fetalurology.org

Letter from the President

The Society for Fetal Urology held its 33rd Biannual Meeting on October 8, 2004 in San Francisco. The topic of the meeting was Prenatally Detected Hydronephrosis and the program chairs were Drs. Hiep Nguyen and Jennifer Abidari. Guest speakers included Dr. Stephen Koff from the Columbus Children's Hospital, Ohio, and Dr. Andrew Kirsch from Children's Healthcare of Atlanta. Members participated in a lively, audience-response system discussion regarding evaluation and management of pre- and postnatal hydronephrosis. Attendance has been steadily increasing at SFU biannual meetings and the fall meeting was no exception, with 115 attendees.

Dr. Koff reported on "The Uniquely Beneficial Effects of Hydronephrosis in Infancy." He noted that hydronephrosis may occur without obstruction. The clinically significant form of obstruction in infancy is chronic partial obstruction and hydronephrosis is a beneficial compensating mechanism to reduce pressure and prevent further damage. Dr. Koff discussed why chronic partial obstruction is unable to be characterized physiologically. This is because the pressure is normal, the volume of the renal pelvis may increase initially but stabilizes, and the urine flow into the renal pelvis must equal the outflow. Eventually the renal pelvis enlarges to a volume where diuresis produces no further overstretch and pressures never reach a pathological level. During times of diuresis with increased volume and overstretching the compliance curve of the renal pelvis is shifted to the right. Unfortunately, the degree of dilation, T1/2 on renal scan, or differential function cannot be used to define obstruction prospectively. This is also reflected by the fact that 80% of children with high grade hydronephrosis and 58% of those with a T1/2 over 20 minutes did not need surgery. Also notable is the fact that the renal pelvic volume increases significantly with diuresis even in normal kidneys.

Dr. Andrew Kirsch reported results of the use of dynamic contrast-enhanced gadolinium magnetic resonance urography (Gd-MRU) in nearly 200 children with hydronephrosis. When compared to sonography and renal scintigraphy, Gd-MRU provides superior anatomical images of the kidneys and ureters with excellent spatial resolution. Dr. Kirsch described a technique for estimating the differential renal function with MRU demonstrating results that correlate well with those obtained using nuclear medicine. As future advances in MRI technology become available, the procedure time, sedation and cost are expected to decrease. Dr. Kirsch predicts that MRU will replace renal scintigraphy in the evaluation of urinary tract disorders within the next few years and that the technique has the potential to become the primary imaging modality—gold standard—in the evaluation of hydronephrosis.

The winner of the Best Case Presentation award was Dr. Heather Wallace, Urology Resident from the University of Mississippi, for her presentation entitled "Severe Bilateral UPJ Obstruction in a Female Fetus Associated with Polyhydramnios and Pseudo-Prune Belly."

Furthering the education of obstetricians regarding issues in fetal urology by representation at both of the SFU's national annual meetings was discussed as a Priority Item for the SFU. There were no objections.

Secretary/Treasurer's Report

New SFU members: Dr. Dominic Frimberger (University of Oklahoma Health Sciences Center), Dr. Peter Anderson (Dalhousie University, Halifax, Nova Scotia), Dr. Hsi-Yang Wu (Children's Hospital of Pittsburgh), and T. Ernesto (Sonny) Figueroa (duPont Hospital for Children, Wilmington, Delaware).

The **SFU Spring 2005 meeting** will be held May 20, 2005, at the Henry B. Gonzalez Convention Center in San Antonio, in conjunction with the AUA Annual Meeting. Dr. Marcos Perez-Brayfield, Miami Children's Hospital, will serve as Course Director and the meeting topic will be Infantile Cystic Diseases of the Kidney. Our guest speakers will be Jack Elder, Professor and Vice Chair, and Chief of Pediatric Urology at Rainbow Babies and Children's Hospital, Cleveland, and Lisa M. Guay-Woodford, Pediatric Nephrologist and Professor of Medicine, and Director of the Division of Genetic and Translational Medicine at the University of Alabama at Birmingham. Check-in/registration begins at 12 p.m.; meeting 1—5 p.m.

CME credits: The American Urological Association Education and Research, Inc., designates this educational activity for a maximum of 4.25 credits in category 1 towards the AMA Physician's Recognition Award. Each physician should claim only those credits that he/she actually spent in the educational activity.

Registration information and call for abstracts for this half-day meeting are located on the last two pages of this newsletter, or on our web site, at www.fetalurology.org (click on "Register for Spring Meeting"). No registration fee is required; however, we do encourage pre-registration.

The **SFU Hydronephrosis Database** has been advanced significantly by Dr. Tony Herndon. He has an expedited IRB review approved at his institution (University of Alabama at Birmingham) and is willing to share this with any potential site that would like to participate. He has also secured funding for this database for a 5-year period. For more information, please contact Dr. Herndon at anthony.herndon@ccc.uab.edu, or through the SFU website "Contact Us" link.

The **World Congress in Pediatric Urology**, to be held in 2009 or 2010, is in the early planning stages and Dr. Christopher Cooper will represent the SFU on the Congress Planning Committee.

The **Fall 2005 meeting** will be held in conjunction with the AAP Section on Urology, on Friday, October 8, in Washington, DC. The topic for this meeting will be In Utero Bladder Outlet Obstruction. Dr. Tony Herndon will serve as Course Chair for this full-day meeting. Registration information and call for abstracts will be posted at a later date on the web site and in the summer 2005 newsletter.

Meeting case presentations will now be published in *The Digital Urology Journal*, the *Urology* domain of *The Scientific World Journal*, a publication of The Scientific World. Published articles are indexed in PubMed and can be accessed at www.duj.com. No registration or fee is required to access this journal.

We need your email address! We would like to create our own email database so that we may correspond with members via email to reduce the number of mailings we send each year. Please go to our website, click on the "Contact Us" link, and send us your name and current email address. We also kindly request that all members check their addresses as listed on the SFU website. We do hear from patients who use our member listing to find a pediatric urologist in their area.

Case Presentation Summaries, Fall 2004 Meeting

Urinary Bladder Hypoplasia with Complete Penoscrotal Transposition, Rectal Atresia, and Renal Dysplasia. Adam G. Baseman, James M. Elmore, Andrew J. Kirsch, Edwin A. Smith, Bruce H. Broecker, *Children's Healthcare of Atlanta, Emory University Department of Urology, Atlanta, GA*

Hypoplasia of the urinary bladder is a rare congenital anomaly. We present a case of an infant born after 35-weeks gestation with a complex spectrum of genitourinary abnormalities. Routine prenatal ultrasound was notable for a fetal pelvic cystic mass along with a two-vessel umbilical cord and oligohydramnios. Physical examination at birth revealed complete penoscrotal transposition with distal hypospadias. Further evaluation including cystogram, MRI, and cystourethroscopy revealed the additional findings of bladder hypoplasia and renal dysplasia. Theoretical embryological explanations for this constellation of findings are discussed.

Prenatal Diagnosis of Cloacal Exstrophy by MRI. James M. Elmore, Adam G. Baseman, Andrew J. Kirsch, Bruce H. Broecker, Edwin A. Smith, *Children's Healthcare of Atlanta, Emory University Department of Urology, Atlanta, GA*

Cloacal exstrophy may be diagnosed in the prenatal period by radiographic evaluation. We present the case of a male infant born at 33 weeks gestation who was diagnosed prenatally with cloacal exstrophy and meningomyelocele by MRI. Radiographic characteristics of the diagnosis and his initial surgical management are discussed. As with other imaging modalities, key findings on MRI distinguishing cloacal from bladder exstrophy include the presence of spina bifida and the protrusion of loops of bowel.

In Utero Ureterocele Puncture Complicated by a Perivesical Urinoma. Wolfgang Cerwinka, Marcos R. Perez-Brayfield, Andrew Labbie, *Department of Pediatric Urology, Miami Children's Hospital, Miami, OH*

A 25-year-old female at 20 weeks gestation was found to have a fetus with bilateral duplicated systems, bilateral hydroureteronephrosis and an intravesical ureterocele. Amniotic fluid was normal. She underwent an in utero puncture of the fetus ureterocele at an outside institution. Postnatally, her son was born with bilateral duplications, upper pole hydroureteronephrosis and multiple septated fluid collection surrounding the bladder without evidence of ureterocele. MRI of the abdomen and pelvis was performed and confirmed the previous findings as well as the presence of a perivesical urinoma. The child was taken to surgery for an evacuation of the urinoma and bladder repair.

Spontaneous Perforation of a Congenital Bladder Diverticulum. Paul H. Noh, Derek J. Matoka, Robert J. Stein, Jake Richard, Stephen G. Docimo, *Department of Urology, Children's Hospital of Pittsburgh, University of Pittsburgh*

We present a case of spontaneous rupture of a previously undiagnosed congenital bladder diverticulum. Our patient was a healthy 9-month-old boy who presented to the emergency room with multiple bouts of blood-tinged emesis. He had signs of peritonitis on initial evaluation by surgery and plain films suggested bowel obstruction. Exploratory laparoscopy revealed copious clear ascites presumed due to a perforated appendix. Bowel and appendix were normal. Cultures of ascites and urine grew *Klebsiella oxytoca*. We then performed a CT scan with I.V. contrast which showed a right-sided perivesical collection with multiple septations. A subsequent cystogram confirmed that the urine extravasation was from the diverticulum, and we explored the pelvis for bladder repair and possible diverticulectomy. Initial cystoscopy demonstrated no evidence of posterior urethral valves or stricture. The neck of the diverticulum was noted to be several centimeters cranial to the right ureteral orifice. Upon exploration there was severe induration of the right perivesical tissues. The bladder was opened and the diverticulum was inverted. A large perforation of the end of the diverticulum was noted. The diverticulum was excised and the bladder muscle and mucosa were reapproximated in two layers. The patient subsequently improved clinically and was extubated. The patient continues to do well on routine follow-up.

Urinary Ascites without Hydronephrosis in a Neonate with Urethral Atresia. Paul H. Noh, Robert J. Stein, Hsi-Yang Wu, *Department of Urology, Children's Hospital of Pittsburgh, University of Pittsburgh*

We report a case of a neonate with urethral atresia, bladder perforation, urinary ascites, and sonographically normal kidneys. Our patient was born at 37 weeks gestation without antenatal testing. He was intubated at birth for respiratory failure and noted on exam to have significant ascites. Imaging of the liver and heart were normal. A peritoneal drain was placed and yielded 300cc of clear fluid immediately. Serum creatinine was 0.7mg/dL while the creatinine of the ascites was 0.8mg/dL. Placement of a urethral catheter was unsuccessful. Over the next two days the ascites creatinine rose to 3.6mg/dL while serum creatinine rose to only 1.6mg/dL. Postnatal ultrasound demonstrated a decompressed bladder, ascites, no renal dysplasia, no perirenal urinoma, and minimal right hydroureter. The patient was taken for surgery where a 6Fr cystoscope could not be passed into the urethra. A .035 guide wire would not pass more than a few centimeters. During creation of a vesicostomy, significant bladder hypertrophy was noted and a large perforation in the bladder dome was repaired. The vesicostomy emptied well and the peritoneal drain was removed. At one month follow-up, the patient is doing well with a serum creatinine of 0.4mg/dL. Bladder perforation with urethral atresia has been reported only once before. Sparing of the upper tracts without pulmonary hypoplasia suggests that the patient had a patent urachus until late in gestation, which was followed by a bladder perforation. The possibility of unusual pop-off mechanisms should be kept in mind when the degree of ascites does not match the degree of hydronephrosis.

Anuria in a Newborn with Bilateral UPJ Obstructions. Stephen J. Canon, Kaveh Besharat, Mark Williams, H. Norman Noe, *LeBonheur Hospital, University of Tennessee*

A 2255 gram newborn boy with known bilateral hydronephrosis was born at 32 weeks gestation to a 22-year-old mother after the onset of acute oligohydramnios. Although the prenatal period was uneventful prior to the 30th week of gestation, the mother experienced acute oligohydramnios for a two-week period, leading to delivery by C-section. The child was admitted to the ICU for respiratory support secondary to hyaline membrane disease. During the subsequent 24 hours, the patient experienced anuria, and the diagnosis of bilateral hydronephrosis consistent with bilateral UPJ obstructions was confirmed by postnatal ultrasound. The urology team was consulted at this time. He then underwent bilateral percutaneous nephrostomy placement. The patient immediately had excellent urine output, and his serum creatinine improved from 4.5 to 2.0 over a 24-hour period. Although the child required further supportive care, his clinical status continued to improve. He was transferred from the ICU to the floor on day four of life where he was given oxygen support over his first few weeks of life. During this time, his urine output was adequate, and his serum creatinine stabilized at 0.6. The child's differential renal function was calculated to be 8.0cc/min/1.73m² on the right and 4.7cc/min/1.73m² on the left.

Minimally United Ischiopagus Twins with Variant Exstrophy: Successful Separation and Review. Hubert S. Swana, Michelle Ebbers, James M. Betts, Marilyn Butler, Olajire Idowu, Laurence S. Baskin, *Department of Urology, University of California, San Francisco*

A 32-year-old G4P2 mother was found to have conjoined twins on screening ultrasonography. Prenatal course was notable for pre-term labor at 32 weeks and delivery by C-section was performed at week 37. Both twins were viable and were able to breathe without assistance. Transfer to a tertiary care children's hospital was performed. Initial physical exam revealed two twin girls. They were joined by an amnion covering an omphalocele. The omphalocele contained intestine which freely drained meconium. Both children had separate hearts and intact pericardia. Each child had two upper extremities and two lower extremities. Radiologic tests confirmed that the proximal intestinal tracts and livers were separate. Each girl had an intact pelvis. Both bladder necks and urethra could be catheterized through a normally positioned introitus and genitalia appeared normal. After opening of the amnion, the twins were found to share some colon. Their ileums were connected to this shared colon in a "T" configuration. The intestines were separated such that each twin was able to retain a viable portion of colon which was used for a colostomy. Each child had a bicornuate uterus with two small vaginal canals that opened onto the floor of the conjoined bladder. They were carefully separated from the bladder and vaginoplasty was performed. The bladder neck and bladder were closed and tension-free abdominal closure was performed.

Prenatal Diagnosis of Renal Tumors: Case Report of Prenatally Detected Congenital Mesoblastic Nephroma Associated with Renal Hypertension and Hypercalcemia In A Premature Infant. Pramod P. Reddy, Harita Baxi, David M. Kitchens, Eugene Minevich, W. Robert DeFoor, Curtis A. Sheldon, *Division of Pediatric Urology, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio.*

We present a case of what we believe to be the youngest patient to be diagnosed antenatally with a CMN of the kidney. Routine prenatal ultrasonography was performed at 17 weeks gestation in a 38-year-old (G2P1) woman with history of an incompetent cervix, status post-cerclage procedure. A singleton female fetus with a large renal mass in the region of the right kidney was identified; a normal left kidney and bladder were noted. The AFI and remainder of the fetal scan were normal. This mass was again visualized 18 weeks gestation. Repeat imaging at 25 weeks revealed a solid mass measuring 5.3x4.1x3.5 cm. Fetal MRI obtained at 26 weeks demonstrated a solid tumor involving most of the upper pole of the right kidney; a small amount of normal lower pole parenchyma was seen with mild pelviectasis. The left kidney, bladder and remainder of the fetal organs were normal. The infant was delivered at 29 weeks, 2 days by emergent C-section due to a non-reactive biophysical profile. The infant was clinically stable weighing only 1200 g. Postnatal imaging included an abdominal ultrasound, CT scan and MRI. The radiographic features of the tumor, along with the associated clinical findings of renal hypertension and hypercalcemia, were strongly suggestive of a diagnosis of CMN. Elective surgical resection of the tumor was undertaken after the child had reached a weight of 2000 g, 7 weeks postnatally. The hypercalcemia and hypertension resolved once the mass was resected. Final pathology was consistent with cellular variant of CMN.

Severe Bilateral Ureteropelvic Junction (UPJ) Obstruction in a Female Fetus Associated With Polyhydramnios and Pseudo-Prune Belly. Heather Wallace, John Wiener, *Division of Urology, University of Mississippi Medical Center*

Fetal ultrasound in a 21-year-old G3 P1 woman at 20 weeks gestation revealed polyhydramnios and severe bilateral hydronephrosis. At 21 weeks gestation, 70 cc was aspirated from the left renal pelvis. Aspiration of the right renal pelvis was unsuccessful. Follow-up ultrasound showed increasing polyhydramnios with no change in the kidneys. Amnioreduction was performed at 26 weeks gestation, but induced pre-term labor resulting in urgent C-section. Initial examination of the neonate revealed a massively distended abdomen, which was compromising respiratory function. Ultrasound shortly after birth showed massive pelvocaliectasis with little renal parenchyma bilaterally. No urinary bladder was identified. No other anomalies were noted. To improve respiratory function, urology was consulted immediately. Aspiration of both renal pelvises was performed at the bedside within three hours of birth; 390cc and 210cc were removed from the right and left kidneys, respectively. Due to increasing abdominal distention, the neonate underwent bilateral cutaneous pyelostomies on day of life three. Creatinine at the time of surgery was 0.9 and reached a nadir of 0.2 at two months of age. Extubation occurred on day of life nine. The neonate was weaned from C-PAP and was discharged to home on room air at nine weeks of age. Postoperative renal ultrasound showed normal kidneys without evidence of hydronephrosis. Bilateral antegrade nephrostograms revealed bilateral UPJ obstruction. The plan for the patient is to perform staged bilateral pyeloplasties and closure of pyelostomies at one year of age. She will also likely require abdominoplasty.

34th Biannual Meeting Information

Overview

The 34th Biannual Meeting will be held May 20, 2005 at the Henry B. Gonzalez Convention Center in San Antonio, Texas. Check-in/ registration begins at 12 p.m.; meeting 1—5 p.m.

This conference will focus on the management of cystic disease of the kidney. Cystic disorders of the kidney are often noted on prenatal ultrasound. Familiarity with the variety of conditions causing cysts in the infant kidney is required for the pediatric urologist and maternal-fetal medicine specialist. A knowledge of the differential diagnosis, pathophysiology, inheritance, treatment options, and prognosis permits good counsel and care for both parent and child.

Accreditation

The American Urological Association Education and Research, Inc., is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education (CME) for physicians. The American Urological Association Education and Research, Inc., takes responsibility for the content, quality, and scientific integrity of the CME activity. The American Urological Association Education and Research, Inc., designates this educational activity for a maximum of 4.25 credits in category 1 towards the AMA Physician's Recognition Award. Each physician should claim only those credits that he/she actually spent in the educational activity.

Course Co-chairs/Speaker

Dr. Marcos Perez-Brayfield will serve as Course Director. Invited speakers will be Jack Elder, Chief of Pediatric Urology at Rainbow Babies and Children's Hospital, Cleveland, Ohio, and Lisa M. Guay-Woodford, Pediatric Nephrologist and Director of the Division of Genetic and Translational Medicine at the University of Alabama at Birmingham.

Call for Abstracts

If you would like to submit an abstract for consideration for presentation at the meeting, please go to our web site, at www.fetalurology.org, and click on "Submit Abstracts." Feel free to contact our Administrative Coordinator, Kris Greiner, at kristina-greiner@uiowa.edu or (phone) 319-353-7871 if you encounter any difficulties using the online form. Specific instructions for submitting abstract are given on page 7 of this newsletter. *Please remember that all submitters must complete an AUA disclosure form.

Register to Attend

No registration fee is required to attend this meeting.

Online

Go to www.fetalurology.org and click on "Register for Spring Meeting."

By Mail

Please fill in the registration form on page 7 and mail to:

Society for Fetal Urology
University of Iowa Department of Urology
200 Hawkins Drive, 3 RCP
Iowa City, IA 52242-1089

By Fax

Please fill in the form on page 7 and fax to the SFU Administrative Office at: 319-356-3900.

By Phone

Please call the SFU Administrative Office at 319-353-7871.

34th Biannual Meeting Call for Abstracts

Abstract submissions will be accepted online, through the SFU website, at www.fetalurology.org. Click on "Submit Abstracts" and fill in the required information. Notifications will be sent via email to the corresponding author no later than May 16.

Please note that all presenters will be required to submit an AUA disclosure form. The disclosure form is available as a Word download on the "Submit Abstracts" web page.

Abstract requirements: Members are encouraged to submit interesting and unique case reports. Preference is given to cases related to the meeting topic, but all reports related to fetal and perinatal urologic topics will be considered. Case presentations should be no longer than 10 minutes. The guest speakers and program chair will judge the presentations and select the "Excellence and Innovation in Case Presentation" for award.

Checklist

- Corresponding author name, email, mailing address, phone and fax
- All coauthor affiliations
- Abstract title
- Abstract body must be no longer than 2,800 characters
 - Do not submit a full case report. Full case reports will be solicited after the meeting, to be submitted to *Digital Urology Journal* for publication.
 - Abstracts are not structured, but refrain from general statements such as "treatment options will be discussed."
- AUA Disclosure Form



34th Biannual Meeting Registration Form

Society for Fetal Urology 34th Biannual Spring Meeting

May 20, 2005

Check-in begins 12 p.m., Meeting 1—5 p.m.

Henry B. Gonzalez Convention Center, San Antonio, TX

NO REGISTRATION FEE IS REQUIRED FOR THIS MEETING

Name _____
Last First MI

Address 1 _____

Address 2 _____

City _____ State _____ Country _____ ZIP _____

Phone (_____) _____ Fax (_____) _____

Email Address _____

Please join us for a Cocktail Reception

Friday, May 20
5—7 p.m.

Henry B. Gonzalez Convention Center

Special thanks to Q-Med Scandinavia for sponsoring this event!

Disclosure Policy Statement

As a sponsor accredited by the Accreditation Council for Continuing Medical Education (ACCME), the American Urological Association Education and Research, Inc., must insure balance, independence, objectivity and scientific rigor in all its sponsored activities. All faculty participating in a CME accredited sponsored program are expected to disclose to the audience any significant financial interest or other relationships with commercial supporters. The intent of this disclosure is not to prevent a speaker with a significant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine if the speaker's interest or relationships may influence the presentation with regard to exposition or conclusion.

Unlabeled or Unapproved Uses of Drugs and Devices

In accordance with the Essential Areas and Policies relating to commercial support, the audience is advised that one or more presentations in this continuing medical education activity may contain reference/s to unlabeled or unapproved uses of drugs or devices. The unlabeled/unapproved use shall be fully disclosed prior to discussion. Please consult the prescribing information for full disclosure of approved uses.

Society for Fetal Urology

Winter 2005

University of Iowa
Department of Urology
200 Hawkins Drive, 3 RCP
Iowa City, IA 52242-1089

Address Correction Requested

Join us for our 34th Biannual Meeting
Henry B. Gonzalez Convention Center, San Antonio, Texas
Meeting details inside, or at www.fetalurology.org