UP-60
Are We Underestimating Bladder Capacity in Children Less than One Year of Age?
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Introduction and Objectives: Estimating bladder capacity is important in the evaluation of many urological disorders. For estimates to be of clinical value, precise reference ranges are needed. While accepted reference ranges have been established in adults and older children, none have been validated in infants. The formula (2* age (years) + 2) (ounces) is commonly utilized for children less than 2 years of age. It defines an average bladder capacity of 60 to 120 ml for children from birth to 12 months of age. Our anecdotal experience suggests this range is frequently an over-estimate. The purpose of this study was to determine the normal bladder capacity of infants.

Methods: We retrospectively reviewed the charts of children aged 0-12 months with cutaneous stigmata of spinal dysraphism referred to the urology clinic at CHEO to rule out occult spinal bifida between October 2004 and July 2011. Asymptomatic patients with normal investigations including abdominopelvic ultrasound and urodynamic testing were included in the analysis. Urodynamic studies were performed using the Laborie Medical Technologies UDS-600. Bladder filling occurred via a catheter at a rate of 10% of the expected total bladder capacity/min. Bladder capacity was determined when the child voided around the catheter. We analyzed age, bladder capacity, detrusor pressure at capacity, bladder compliance and length of follow up.

Results: Forty-six percent (84/183) of patients met the study inclusion criteria. The mean age was 8.2 months (SD=3.1). Mean bladder capacity was 46.8 ml (SD=30.6) and the mean detrusor pressure at capacity was 9.0 cmH2O (SD=11.1). Mean compliance was 14.0 ml/cmH2O (SD=13.8). The average length of follow up was 41.5 months (SD=26.9).

Conclusions: Bladder capacity in infants with a mean age of 8.2 months was found to be 46.8 ml. This is less than half of the volume predicted by a commonly employed formula. A novel method of estimating bladder capacity in infants is required.

UP-61
Educational Tool for Community Physicians Performing Neonatal Circumcisions Part I: Review of Local Anesthesia, Contraindications, and Complications
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Introduction and Objectives: In Canada, neonatal circumcision is mostly performed by family physicians and pediatricians. A survey of family physicians and pediatricians performing neonatal circumcisions identified the absence of any formal training courses and lack of confidence in managing common complications. In response to that, an educational video focused on specific details of the neonatal circumcision surgical technique was created to facilitate practitioners’ understanding of this procedure, with the aim to minimize the risk of complications and obtain better cosmetic results.

Methods: This educational tool was developed for a half-day multidisciplinary healthcare workshop held at McMaster University in 2010. The video demonstrates 2 neonatal circumcision techniques utilizing the Gomco clamp and the Plastibell device. A survey of workshop participants was conducted 6 months following the workshop to ascertain impact of the training video on clinical practice.

Results: All 34 physicians who attended the workshop completed the survey. Respondents confirmed the video improved their ability to identify contraindications, use of local anesthesia as well as preventing and managing complications. All participants evaluated the workshop as either good or very good. Of the respondents, 79% felt more comfortable performing neonatal circumcision after the workshop and 82% reported that they would even change their clinical practice based on the knowledge gained.

Conclusions: This educational video on neonatal circumcision seems to positively impact the ability and the level of comfort of practitioners, which should theoretically reduce the number of complications and unsatisfactory results.

UP-62
Educational Tool for Community Physicians Performing Neonatal Circumcisions Part II: Surgical Techniques
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Introduction and Objectives: Neonatal circumcision is mostly performed in Canada by family physicians and pediatricians. A survey of family physicians and pediatricians performing neonatal circumcisions identified the absence of any formal training courses and lack of confidence in managing common complications. In response to that, an educational video focused on specific details of the neonatal circumcision surgical technique was created to facilitate practitioners’ understanding of this procedure, with the aim to minimize the risk of complications and obtain better cosmetic results.

Methods: This educational video on neonatal circumcision seems to
UP-63
Laparoscopic Single-site Pyelolithotomy (LESS-P) in a Pediatric Patient
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Introduction and Objectives: Patients with a large stone burden are usually offered percutaneous nephrolithotomy (PCNL). It offers excellent stone clearance rates, but access and treatment can be challenging. LESS is an emerging approach with limited data. Here we offer a novel, endourologic approach for patients with significant nephrolithiasis who may otherwise be offered an open procedure. To our knowledge, a pyelolithotomy using LESS has not been described in the literature.

Methods: In the accompanying video, we present this novel surgical technique in a child with cystinuria, recurrent stones and previous complicated contralateral PCNL. Here we use a SILS-port access device (Covidien®) with articulating instruments (graspers, cauterizing L-hook) and articulating camera (Olympus®).

Results: A stent is placed and the bladder filled to distend the renal pelvis. In a mild flank position, 1.5 cm skin and 2.5 cm fascial incisions are made. Camera and instrument positions are optimal in the access port with the working instruments on the same horizontal plane and of different lengths, and the camera angled to limit collision. We favour a transmenderic approach when possible. Unlike LESS pyeloplasty, minimal dissection is needed to expose the pelvis for eventual mini-pyelotomy and stone extraction. Hitch stitches are used to stabilize the pelvis and lift mesenteric vessels for optimal exposure. Pyelotomy is made, stones are removed and the pelvis is re-approximated. We use a standard approach to facilitate knot-tying during LESS with a straight needle driver and articulating grasper. Stones are placed in a bag and extracted.

Conclusions: LESS-P is a novel approach for the treatment of extensive nephrolithiasis and it supplements current surgical options. For experienced laparoscopists, it can be less morbid than traditional alternatives. It should be considered whenever PCNL is not feasible, scarless surgery is desired, or when pyeloplasty is also indicated.

UP-64
Near Total Excision for Giant Prostatic Utricle (PU) Through Anterior Sagittal Trans-rectal Approach (ASTRA)
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Objectives: To evaluate the effectiveness of near total excision of a giant PU using the ASTRA approach.

Material: A full term male (46XY) child presented at the age of 11 days with right acute scrotum, left undescended testis, hidrotrophic and proximal hypospadias. Perinatal torsion was suspected so scrotal exploration was done which revealed epididimo-orchitis with funiculitis. Abdominal ultrasound showed bilateral nephrocalscinosis, no hydrenephrosis, no hydroceles, normal looking urinary bladder and a cystic area with sediments posterior to the urinary bladder measuring 15x21x15 mm (15 ml). MCUG showed ill-defined cystic swelling extending from posterior urethra behind the urinary bladder, anterior to the rectum and extending above the bladder dome. The urinary bladder & posterior urethra were normal. Barium enema was normal. Cystoscopy revealed normal bladder and posterior urethra. A giant PU filled with turbid urine and no cervix was seen originating from the veru. An 8 Fr Foley catheter was inserted through scope over a guide wire. Through (ASTRA) the posterior wall of the PU was identified and dissected circumferentially. Both ejaculatory ducts were located to the dome of the PU. Sub-total excision of the PU was performed, leaving intact its dome and ejaculatory ducts which were anastomosed to the neck of the PU. The bladder was drained with 8 Fr Foley catheter for 10 days.

Results: Patient had an uneventful postoperative course. Follow up was regularly done with US every 6 months, and there was no recurrence of epididimo-orchitis or UTI. In the last US at the age of 4 years utricle cyst was measuring 15x14x12 mm (1.3 ml volume) with clear fluid. Patient is continent to urine and stool.

Conclusion: Sub-total excision of giant PU through ASTRA approach provides a great exposure for an effective and safe removal of symptomatic and large utricles. In our case it allowed to spare ejaculatory ducts.