

UCSF

UC San Francisco Previously Published Works

Title

1199 PEDIATRIC GENITOURINARY INJURIES TREATED IN US EMERGENCY DEPARTMENTS FROM 2002 - 2010: RESULTS FROM THE NATIONAL ELECTRONIC INJURY SURVEILLANCE SYSTEM DATABASE

Permalink

<https://escholarship.org/uc/item/1qz411kd>

Journal

Investigative Urology, 187(4)

ISSN

0021-0005

Authors

Tasian, Gregory
Bagga, Herman
Fisher, Patrick
et al.

Publication Date

2012-04-01

DOI

10.1016/j.juro.2012.02.1466

Peer reviewed

cerning VUR, pts with urologic pathology were more likely to develop postoperative VUR than those without [16 vs. 6 pts (relative risk 3.7), $p=0.002$], as were younger pts (mean age 9.4 vs 13.6 years, $p=0.02$). Postoperative VUR was not associated with intraoperative stent placement ($p=0.99$), UNC technique ($p=0.99$), donor type ($p=0.99$), ESRD etiology ($p=0.16$). Complication and de novo VUR rates remained stable over time ($p=0.1$ and $p=0.8$ for trend).

CONCLUSIONS: Patients with pre-existing urologic pathology undergoing RTX are at increased risk of postoperative VUR but not other acute surgical complications. Renal donor type, etiology of ESRD, and patient age did not correlate with an increased number of complications. Early post-RTX assessment and management is critical in patients with pre-existing urologic pathology.

Source of Funding: None

1197

SATISFACTION AFTER BOWEL AND BLADDER RECONSTRUCTIVE SURGERY FOR CONTINENCE IN THE PEDIATRIC POPULATION

Audrey Rhee, Kate Hillier, Kirstan Meldrum, Martin Kaefer, Mark Cain, Richard Rink, Rosalia Misseri, Indianapolis, IN*

INTRODUCTION AND OBJECTIVES: Controversy exists regarding the outcomes and improvements of quality of life in pediatric patients who have undergone reconstructive surgery to aid in bowel and bladder continence. We sought to determine the impact of such surgeries on various aspects of a child's life and parental satisfaction after surgical intervention.

METHODS: The Glasgow Children's Benefit Inventory Survey, a validated survey that retrospectively assesses the consequences of a surgical intervention on various aspects of a child's day-to-day life, and six questions pertinent to reconstructive surgery were mailed to the parents of all children under the age of 21 who had undergone reconstructive surgery over an 11 year period at a single institution.

RESULTS: 116 responses were collected (39% response rate). Underlying pathology included spina bifida 63(54.3%), other spinal abnormalities 9(7.8%), classic bladder exstrophy 9(7.8%), cloacal exstrophy 3(2.6%), cerebral palsy 3(2.6%), and spinal cord trauma 3(2.6%). Most affected was the child's overall life (better in 99%). Improvements in things the child does (89%), self-consciousness around other people (65%), how he/she feels about him/herself (62%), confidence (69.8%), and ability to care for him/herself (80.2%) were reported. Parents stated that fecal continence (43.9%), urinary continence (38.6%) or both (19.3%) were most important to them. One hundred fourteen parents would recommend surgery for other children with problems similar to their own child's problems. In retrospect, two (1.7%) parents stated that they would not have had their child undergo surgical intervention; both of their children had developed urologic and bowel pathology secondary to spinal cord trauma.

CONCLUSIONS: Based on a validated questionnaire for pediatric patients after surgical intervention, overall satisfaction of surgery to aid in urinary and fecal continence is high. Additional questions indicate parental satisfaction with surgical intervention.

Source of Funding: None

1198

POPULATION-BASED OUTCOMES OF LAPAROSCOPIC AND OPEN PYELOPLASTY IN PEDIATRIC URETEROPELVIC JUNCTION OBSTRUCTION

John Knoedler, Simon Kim, Nilay Shah, Stephen Kramer, Brittany Kimball, Moira Dwyer, James Moriarty, Douglas Husmann, Rochester, MN*

INTRODUCTION AND OBJECTIVES: Although laparoscopy has been widely adopted in adult renal surgery, its adoption and relative effectiveness in comparison to open pyeloplasty for pediatric ureteropelvic junction obstruction (UPJO) remain unknown. Here-

with, we sought to describe the national utilization and comparative effectiveness with regards to in-hospital complications, length of stay and cost of open and laparoscopic pyeloplasty for pediatric UPJO in the U.S.

METHODS: Using the 2004-08 Nationwide Inpatient Sample, we identified 4,590 pediatric patients (<18 years old) who underwent open or laparoscopic pyeloplasty for UPJO at 195 hospitals. Multivariable logistic regression and generalized linear models were used to test the associations between hospital and patient covariates (age, gender, race, primary health insurance), type of admission (emergent vs. elective), and hospital characteristics (teaching vs. non-teaching status; rural vs. urban location) with complications, length of stay (LOS), and total hospitalization costs.

RESULTS: During the 5-year study interval, 164 (3.6%) and 4,426 (96.4%) pediatric patients diagnosed with UPJO underwent laparoscopic and open pyeloplasty, respectively. The proportion of laparoscopic pyeloplasty increased from 2.4% in 2004 to 4.4% in 2008, though this was not a statistically significant increase ($p=0.22$ for trend). On multivariable analysis, laparoscopic pyeloplasty was observed to have similar odds of postoperative complications (OR: 0.59; 95% CI: 0.08-4.61; $p=0.62$), LOS (2.14 vs. 2.72; $p=0.14$), and total hospitalization cost (\$9,651 vs. \$9,084; $p=0.21$) in comparison to open pyeloplasty. Among all pyeloplasty (lap. and open), patients who were older (12-18 years) had higher costs (\$10,887 vs. \$8,332; $p<0.05$) compared to younger patients (<6 years) and those admitted as emergent cases had longer LOS (3.9 vs. 2.5; $p<0.05$).

CONCLUSIONS: While laparoscopic pyeloplasty remains an infrequent operation performed for pediatric UPJO in a contemporary population-based cohort, minimally invasive surgery provides comparable outcomes for in-hospital complication, LOS, and total hospitalization cost. Increased scrutiny of cost differences between open and minimally invasive surgery for pyeloplasty in a pediatric UPJO population may therefore be unwarranted.

Source of Funding: None

1199

PEDIATRIC GENITOURINARY INJURIES TREATED IN US EMERGENCY DEPARTMENTS FROM 2002 – 2010: RESULTS FROM THE NATIONAL ELECTRONIC INJURY SURVEILLANCE SYSTEM DATABASE

Gregory Tasian, Philadelphia, PA; Herman Bagga, Patrick Fisher, Nadya Cinman, Charles McCulloch, Jack McAninch, Benjamin Breyer, San Francisco, CA*

INTRODUCTION AND OBJECTIVES: The epidemiology of pediatric genitourinary injuries in the United States (US) is unknown. We describe the epidemiologic features of genitourinary injuries sustained by children that presented to US emergency departments (EDs).

METHODS: We analyzed the National Electronic Injury Surveillance System (NEISS) to identify and characterize genitourinary injuries sustained by children 18 years and younger from 2002 to 2010 ($n = 10,130$). Estimates and standard errors were calculated using data included in NEISS, which is a stratified probability sample of hospital EDs in the United States and its territories validated to produce national estimates of all patients who present to US EDs with an injury.

RESULTS: Between 2002 and 2010, an estimated 252,392 children (95% CI 205,579 – 299,194) presented to US EDs with genitourinary injuries. These children had a mean age of 7.4 years (median 6 years, IQR 4 – 10 years). Forty-five percent of the injured children were boys. The yearly incidence of genitourinary injuries was stable across the time period studied. The most commonly injured organs were female external genitalia (37.7%), penises (21.6%), and testicles (12%). The rates of female external genitalia, penile, and testicular injuries per 1000 person years of follow-up were 0.13, 0.08, and 0.04, respectively. The most common diagnoses were contusions (35.5%) and lacerations (32.9%). Fall was the most common mechanism of injury ($n=114,017$), accounting for 45.2% of the reported injuries. Genitourinary injuries were most commonly associated with

sporting and exercise equipment (35.7%), clothing items (15.5%), and playground equipment (6%). Ninety-one percent of patients were treated in the ED and then discharged.

CONCLUSIONS: Genitourinary injuries are an important cause of pediatric morbidity. The stability of the injuries across the time period studied suggests that potential preventative measures to decrease risk of genitourinary injury have not been identified or implemented. Further studies should be conducted to identify which products pose the greatest hazard to children in hopes of increasing awareness and developing safety mechanisms to decrease risk of traumatic genitourinary injury.

Source of Funding: National Institutes of Health Multidisciplinary K12 Urologic Research Career Development grant awarded to Dr Breyer

1200 PEDIATRIC AUGMENTATION CYSTOPLASTY: A SINGLE INSTITUTION CONTEMPORARY EXPERIENCE.

Laura Stansell, Arun Srinivasan, Lindsey Herrel, Hal Scherz, Edwin Smith, Andrew Kirsch, Atlanta, GA*

INTRODUCTION AND OBJECTIVES: We report the Children's Hospital of Atlanta experience and outcomes with augmentation cystoplasty (AC).

METHODS: From 2003 to 2011 we performed 111 AC's on 108 patients with 2 to 84 month follow up. A database was established via chart review to evaluate patient demographics, indications, and outcomes.

RESULTS: 108 patients had AC over a 7 year period. Average age at time of AC was 8.5 years (range 3 to 20 years). Diagnoses included myelomeningocele (MMC) (78), exstrophy/epispadias/cloacal anomalies (11), VATER syndrome (6), posterior urethral valves (2), sacral agenesis (5), sacral teratoma (2), spinal cord injury (2), and other (2). Bowel segments included ileum in 54.6%, sigmoid in 34.3%, and a composite in 11.1%. 28 children were 5 years of age or less, with the most common diagnosis being MMC in 18. AC was performed in 80 children older than 6 years of age, in whom the most common diagnosis was also MMC in 59.

The most often reported adverse event after AC was urolithiasis with 29 patients requiring 56 operative interventions. The distribution of stone formation according to bowel segment used was ileum in 62.1%, sigmoid in 34.5%, and a composite in 3.4%. Incidence of perforation was 3.7%, small bowel obstruction was 4.6%, and fistulae was 2.8%. There were no differences noted related to the choice of segment in the development of these complications. Revision AC was performed on 7 patients, 2 of whom had initial procedures performed at outside institutions.

The incidence of vesicoureteral reflux (VUR) in the cohort was 50%. Of these, 56% resolved, 33% persisted, and 6 patients (11%) were noted to have a new diagnosis of VUR after augmentation. Of cases that resolved, 62.1% underwent ureteral reimplantation, 13.8% underwent injection of dextranomer-hyaluronic acid, and 24.1% underwent no ureteral procedure. In patients with persistent VUR post ureteral reimplantation, more than half (66.7%) were new contralateral VUR. We noted an 11% incidence of de novo VUR after AC alone. Fifty percent were noted to have dilating VUR (grades III, III, and IV) with the rest having grade II VUR.

Bladder outlet procedures (antegrade injection of dextranomer-hyaluronic acid, reconstruction, closure, or placement of sling) were performed on 22 patients prior to eventual AC.

CONCLUSIONS: When properly selected, augmentation cystoplasty may be performed safely across a broad pediatric age range. The challenge is to anticipate morbidities in the future, notably the prevention of stone formation.

Source of Funding: None

1201 DOES THE MECHANISM OF INJURY IN PEDIATRIC BLUNT TRAUMA PATIENTS CORRELATE WITH THE SEVERITY OF GENITOURINARY ORGAN INJURY?

Bayo Tojuola, Xiao Gu, Nathan Littlejohn, Mark Williams, Dana Giel, Memphis, TN*

INTRODUCTION AND OBJECTIVES: Blunt abdominal trauma can result in injury to genitourinary (GU) organs. Children may be more susceptible to some GU injuries due to anatomic differences compared to adults. Mechanism of injury (MOI) has been thought to relate to both the likelihood and severity of GU injury in children, although this has not definitively been proven. Our purpose is to determine if MOI has any correlation to the severity of GU injury in children treated at our institution.

METHODS: We reviewed records of all pediatric blunt trauma patients presenting to our institution from January 2005-December 2010 using the LeBonheur Children's Hospital Trauma Registry. All patients with GU injuries were included in this study. Data collected included demographic information, MOI, type and grade of GU injury, associated injuries, and clinical outcome. Continuous variables were tested with ANOVA and categorical variables were tested with chi-square test.

RESULTS: Records of 5151 children with blunt trauma were reviewed; 76 patients were found to have GU organ injury. There were 47 males (61.8%) and 29 females (38.2%). Categories of MOI included motor vehicle accident, sports injury, bicycle accident, all-terrain vehicle accident (ATV), pedestrian struck accident, falls, and miscellaneous. MOI did not have any statistically significant association with the severity of urologic injury ($p=0.5159$). In addition, there was no association between MOI and either gender or side of injury. There was a statistically significant association between MOI and patient age ($p=0.04$); older pediatric patients were more likely to experience GU injury due to sports injury and ATV accidents, where as younger patients were more likely to experience GU injury due to pedestrian struck or bicycle accidents.

CONCLUSIONS: Although specific MOI would seem to relate to presence and severity of injury in children, MOI alone does not correlate with the severity of GU organ injury in our pediatric trauma population. Age of pediatric patients is associated with the type of MOI that results in GU organ injury. The possibility of GU injury should be considered in all symptomatic pediatric patients with clinically significant blunt trauma regardless of the exact MOI.

Source of Funding: None

1202 FACTORIAL ANALYSIS OF PARENTAL PREFERENCE IN OPEN COMPARED TO LAPAROSCOPIC SURGICAL INCISIONAL SCARS

Joao Barbosa, Sao Paulo, Brazil; Ghassan Barayan, Alan Retik, Hiep Nguyen, Boston, MA*

INTRODUCTION AND OBJECTIVES: Laparoscopic surgery is reported to result in smaller scars than open surgery. Even though this fact is often assumed as a cosmetic advantage, the extent to which it improves patient satisfaction and influences decision-making is rarely studied. Such reports are even less frequent in the pediatric population, whose peculiarities in tissue repair and body image would advocate specific investigation. Furthermore, demographic predictors for preference of surgery and satisfaction with scar are unknown in pediatric patients. The objective of this study is to evaluate patient and parental preference for open vs. laparoscopic scars preoperatively.

METHODS: Three surgery-specific surveys (for pyeloplasty, ureteral reimplantation and bladder augmentation) were developed for preoperative assessment of preference and perception of scars. The surveys consisted of a demographic questionnaire and a section on preference for scars composed of diagrams and pictures of long-term