Urgent Issues in Pediatric Urology

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No disclosure

- I do not have any significant financial interest or other relationship with the manufacturers of any products or providers of services I intend to discuss.
Urgent/emergent urologic issues

- Common calls from the ED/pediatrician’s office

- Billy presents with testicular pain
  - Swollen scrotum/Erythema
  - “pain when I pee”
  - Hematuria
  - Trauma

- Differential Diagnosis
- Management strategies
Call Us:

- Share our phone numbers  -AH **203-645-9662**
- Pediatric Urology Scheduling **203-785-3588**
  Fax **203-737-8035**
- Y-ACCESS
  **888-YNHH-BED (888-964-4233)**
Acute Scrotum

- Symptoms:
  - Scrotal pain, swelling, erythema, nausea/vomiting
- Evaluation includes: onset/severity of pain; orientation of testis

- Wide differential diagnosis

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Epididymo-orchitis

- Pain
- Erythema/Swelling

- Differential
  - Testicular torsion
  - Abscess
  - Torsion of appendage

- Elevate testicle “Prehn sign”

- Urine sterile, unlikely infectious
- Ultrasound
  - Rule out abscess
13-y/o with right testicular pain and swelling

- Increased in pain over 2 days with associated scrotal swelling and erythema
Torsion of Appendix Testis or Epididymis

- Painful
- Blue dot sign
- Crescendo pain
- Distinguish from epididymitis/torsion

- Urine analysis
- Consider ultrasound

- Antibiotics not necessary
- No Surgery

- NSAIDS
- Warm Soaks
- Scrotal support
13-y/o with right testicular pain and swelling
Testicular torsion – “Swirl”
Testicular torsion

- Pain
- Swelling
- Abnormal testicular lie
- Associated nausea and vomiting

- Injury dependent on
  - Degree of rotation of the cord
  - Duration
  *25% other direction

- Increased risk of contralateral torsion
  - “bell-clapper” deformity

- Intermittent torsion
- Torsion/detorsion

Urgent trans-scrotal US and Urology Consultation
Testicular torsion

- Extravaginal (neonatal) vs. Intravaginal (adolescent)

- Intrauterine and Neonatal-
  - Extravaginal (including tunica vaginalis)
  - 1:7500 newborns
  - Main cause of monorchidism

- Age 12-18 y.o.
  - Intravaginal (within tunica vaginalis)
  - Bell clapper deformity
  - Estimated lifetime incidence
    1/4000 males <25 years
Neonatal torsion

- Prenatal torsion
  - Minimal to no discomfort
  - Hard, fixed, often discolored scrotal mass
- Postnatal torsion
  - Considerable tenderness and swelling of a previously normal testis
- Pre-Postnatal distinction not always appreciated

Urgent Scrotal Ultrasound and Urology Consult
Neonatal Torsion

- Prenatal to 1\textsuperscript{st} month of life (3\textsuperscript{rd} month)
- Etiology unclear
- Rare event
  - 10\% all torsions
  - 10-22\% neonatal torsion are bilateral
- Risk contralateral torsion up to 3-4 months old
  (? up to 6\textsuperscript{th} months)
- Surgical intervention or parents check diaper when baby in distress
Left scrotal swelling

- 3-y/o with painless left scrotal swelling
- Does not fluctuate in size
- Developed after
  - Congenital
  - Infection
  - Trauma
  - Increased over time

Non-communicating hydrocele

Conservative management
3-y/o with scrotal swelling

Fluctuates in size
Increased when bearing down; Reduces when sleeping

Risk of developing a hernia
Hydrocele of the cord

Scrotal swelling
Distinct from testicle

Communicating vs. Non-communicating
Rule out inguinal hernia
Inguinal hernia

Urgent referral for: Incarceration
Pain, swelling, Erythema, Nausea/Vomiting
Back to the Anatomy
Hernia repair - Internal view

Diagnostic laparoscopy

Left internal ring - patent

Closed ring - post repair
Undescended testicles at higher risk for hernia
Right abdominal testicle

Left

Right

Laparoscopic orchiopexy
1- vs 2- stage
Trauma - Testicular rupture

Lacrosse ball..... No cup.....

Left ecchymosis  

Testicular rupture  

Tunica vaginalis flap
Groin/testicular pain

- Unilateral vs. bilateral
  - Specific/distinct vs. diffuse
- Acute vs. chronic
- Intermittent
  - Torsion-detorsion

- ? Testicular pain
  - Bladder spasms
    - Pain at tip of penis
    - Abnormal voiding?
    - Associated constipation?
  - Distal stone
**Left ureterovesical junction stone**

- Flank pain - radiating to groin
- Hematuria
- Nausea/vomiting
Kidney stones often asymptomatic

Pain with obstruction—distention
  - Hydronephrosis
  - Hydroureter

Conservative management—Tamsulosin/alpha blocker
Ureteral stent placement
Cystoscopy and lithotripsy/stone extraction
Penis problems

Ouch!
Circumcision injury

Mogen clamp

***Release foreskin adhesions
Plastibell circumcision

Penile injury
  Plastibell too large
  Fall off 4-8 days
  Proximal migration
    Skin Loss
    Urethrocutaneous fistula

Ring cutter
Balanitis / Balanoposthitis

- (1.5%) uncircumcised 0-15 yrs
- Most common candida
- Can be bacterial
- Topical antibiotics (metronidazole cream or bacitracin) and antifungals ( clotrimazole cream)

?? Tear glans adhesions— inflammatory response, not infection
Paraphimosis

Constriction from phimotic band
Edema

Treatment --- Grip of death...
reduce shaft edema and re-advance skin
Foreskin problems

Cut the bottom of the zipper........
## Penile fracture

During intercourse
“Pop” sound, de-tumescence and pain

Conservative management vs. surgical intervention
- Emergency Department
- Physical examination
- Urethral involvement
  - Blood at meatus
  - Inability to urinate
  - Retrograde urethrogram vs. cystoscopy

Imaging
- Penile US
- Penile US-tunical defects
- MRI
Ureteropelvic junction obstruction

Symptomatic

Antenatal imaging

Trauma
• Incidental
• More susceptible to injury

Studying in college....
Intermittent ureteropelvic junction obstruction

- Intermittent pain
  - “Beer drinkers syndrome”
- Nausea vomiting-
  - “Cyclic vomiting syndrome”

- Obtain ultrasound while symptomatic

Asymptomatic

Left flank pain
Ureteropelvic junction obstruction

- More susceptible to minor trauma

Left ureteropelvic junction obstruction
Renal pelvic rupture
Peds Urology Team

- Angela Arlen MD
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- Therese Gardere APRN
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Questions?

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What are the concerns?

• Worsening hydronephrosis
• Renal compromise
• Infections
• Chronic renal failure.... Hypertension....Transplant...