Panel Session - Interesting Cases

12th Annual Update
Acute & Emergency Care Pediatrics Conference
Children’s Hospital at Erlanger
Chattanooga, TN
April 19, 2013

Panel Members

Curt S. Koontz, MD FACS
Pediatric Surgery
Department of Surgery
University of Tennessee College of Medicine

Michael S. Wallace, BSHS, CCPM
EMS Operations Manager
Williamson Medical Center

Darwin M. Koller, MD, MSCE
Medical Director, Emergency Department
Children’s Hospital at Erlanger
Department of Pediatrics
Department of Emergency Medicine
University of Tennessee College of Medicine

Objectives

- Identify the pitfalls and challenges in the infant with vomiting
- Discuss the utilization of imaging in infant with vomiting
- Discuss challenges in proper management of the patient with acute spinal cord injury
Objectives

- Know the indications for steroids in this setting
- Discuss the pitfalls and challenges in the management of the patient with penetrating trauma
- Know the indications for thoracotomy in the ED, and discuss the outcome

Case 1

- 14 y.o. M attempts double forward flip and misses
- Lands on head/neck
- Immediate syncopal episode of unknown duration
- 911 called

Case 1

- EMS arrives....
  - Boy awake, alert, lying supine on ground
  - Almost no feeling in lower extremities
  - Carefully immobilized in full spinal package
  - IV established
  - Transported to local community hospital
Case 1

- Arrival at local community hospital....
- GCS 14
- HR 53, sinus RR 18 BP 113/64 SpO2 100%
- Diminished sensation to any touch in lower extremities
- Portable X-ray of C-spine done quickly in ED

Case 1

- C-spine CT shows cervical spine injury
- Immediate transfer to a Children's Hospital arranged
Case 1

- Flight crew arrives to transport....
  - VSS, MS unchanged
  - No absent motor function in both lower and upper extremities
  - Complained of pain over occiput and back of neck
  - Carefully but quickly transported to a Children’s Hospital
  - Continued sensation loss during flight

Case 1

- Arrives at Children’s Hospital ED....
  - GCS 14, maintaining airway and VSS
  - No sensation below nipple line
  - No rectal tone
  - Urinary and fecal incontinence
  - Multiple services consulted
  - Transported to OR for intubation
Case 1

- Successfully intubated in OR
- MRI
  - Cord compression only

Case 1

- Neurosurgery
  - Open reduction with posterior and anterior fusion of C3-C5
  - Discectomy
Case 1

- Tracheostomy
- CPAP
- Rehab
- Full recovery

Discussion Points

- Careful C/T/L/S immobilization
- High dose steroids not given. Why not?
- Difficult airway considerations
- Pros and cons of plain radiographs in setting of neck injury
- Definitive transport to tertiary care center for proper intervention
- Good outcome

Case 2

- 4 mo M, previously healthy
- Mom and grandmother concerned about feeding
- No pediatrician, 1st time mom
- Formula fed, started rice and Stage 1 peas
- Vomiting after feeds for past 24 hours
- Fussy, not sleeping well
- Benign prenatal/birth history
- Normal exam in ED
Case 2

- PO challenged in ED went well
- Diff dx - viral, GERD, overfeeding?
- D/C home

Case 2

- Returned to ED 8 hours later
- Continued emesis, now “green”
- ED physician feels mass on exam
- Surgery and radiology services notified
Discussion Points

- Varied presentations of intussusception
- Differential broad
- X-ray findings neither sensitive nor specific
- Ultrasound is if done properly
- Important initial interventions
- Enema - risks, % successful
- Surgical options lap vs open

Laproscopy Video

Case 3

- 5 year old boy accidental GSW
- Found loaded gun in home
- 911 called, arrived quickly
### Case 3

- Lots of blood loss but normal initial VS
- Awake, alert, talking to paramedics
- Entrance and exit wound - upper right back, upper left Abd
- Unable to fly due to weather
- 30 minute ground transport
- IVF, O2

### Case 3

- During EMS transport
  - Children's Hospital at Erlanger notified and trauma team mobilized
  - Rapid decline in mental status
  - Hypotensive
  - Cardiac arrest 10 min PTA
  - Intubated
  - CPR

### Case 3

- Arrival to Children's Hospital ED
  - CPR in progress
  - Pale, cool
  - Asystole
  - CVL established, IO
  - Aggressive fluid, blood product, medical resuscitation
Case 3
- Open thoracotomy
- Internal cardiac compression
- Aorta cross-clamped
- Intra-cardiac epi x 2
- ROC with pulse
- Continued resuscitation
- Immediate transport to OR

Case 3
- In OR....
  - Wounds explored, closed
  - Transferred to PICU
  - DIC, continued blood loss
  - Multiple arrests over 2 hours
  - Died

Discussion Points
- Management of penetrating trauma
  - Prehospital
  - In ED

- Indications for ER thoracotomy
- Outcomes
Bonus Case

- 6 yo M
- “Bee stung me” → School nurse
- Crying, hand hurts
- Blotchy red whelps to left arm and neck
- Nurse finds stinger and removes it
- Hives spread, voice seems hoarse
- Nurse has no meds at school
- Principal calls 911 and mother

Bonus Case

- EMS arrives within 5 minutes
- Respiratory distress, obvious stridor
- O2, Epi given (1:1000) IM
- Placed in ambulance
- Racemic epi nebulized started
Bonus Case
- Respiratory effort becoming shallow
- Decreased level of consciousness
- Quickly becomes unresponsive
- Apneic, pulseless
- V-fib on cardiac monitor

Bonus Case
- CPR started
- Pedi defibrillator pads placed
- Rhythm confirmed, shocked
- I.O. placed
- Difficult to BMV
- Intubated

Bonus Case
- Transported to Children’s Hospital
- CPR, PEA
- Repeat epinephrine, NS bolus
- ROSC, strong central pulse, low normal BP
- Steroids, Antihistamines
- CXR
- Epi drip
Discussion Points

- Management of anaphylaxis in school setting - policy issues
- Poor respiratory effort - racemic not delivered
- Airway difficulties in the pediatric patient, particularly in anaphylaxis
- Use of Broselow system
- Epinephrine error
- Importance of continued reassessment in the field
- Therapeutic recommendations for anaphylaxis