Prehospital Stabilization of the Pediatric Trauma Patient

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Initial Assessment

EMS was called for a "child run over by a car."

Scene Size-Up
- 4-year-old girl was found
  - Crying
  - Child has apparent anatomic injuries

Initial Assessment
- Alert, appropriate response to situation
- Pale, cool skin
- Crying loudly, no visible respiratory distress
- Palpable brachial pulse
Focused Assessment
- Tire track extending from the right upper quadrant of the abdomen to the left shoulder
- Bruising adjacent to the tire track
- Breath sounds clear
- Multiple abrasions to arms and legs
- 132, 100/62, 36

Prehospital Intervention
- On scene
  - High flow oxygen
  - Immobilized on backboard
- En route
  - 18 angio initiated L antecubital, 100 cc NS infused.
Transport to the trauma center took 13 minutes

E.D. Assessment
- EMTs reported no change enroute. The patient's chief complaint was left shoulder and arm pain.
- Conscious, speaking, crying
- Nonlabored breathing
- Skin warm, pink, diaphoretic
- Strong, rapid pulse
- Head/neck: normal
- Chest: clear breath sounds
- Abdomen: tender, mild distension
- Extremities: normal
- 128, 106/69, 36, 37.3 F
E.D. Diagnostic Testing

- Lab:
  - Hgb: 13.1
  - Hct: 39.9%
  - WBC: 22,200
  - Amylase: within normal limits

- Radiology:
  - C-spine: normal
  - Chest: Pulmonary contusion on left
  - Abdominal CT: Small liver laceration with small amount of retroperitoneal bleeding

E.D. Intervention

- Oxygen, 4 L
- Second IV of D5.45 normal saline established, infused at 100 cc/hour
- Prepared for surgery

Hospital Course

The patient was admitted to the pediatric ICU 3 hours after arrival in the emergency department.

- Her liver laceration was managed conservatively without surgical intervention.
- Abdominal CT on day 4 was relatively normal.
- The patient was discharged home on day 5 with no problems apparent during a one month follow-up visit to the pediatric surgeon.
Prehospital Presentation
Called to a rollover accident involving a pickup truck. 2 year old girl was found in her father's arms, crying. She was unrestrained passenger in front seat. Truck rolled x1.
• Initial: Alert, appropriate
  - Pale, rapid, thready pulse
  - Crying loudly, no respiratory distress

Prehospital Intervention
• Initial
  - High flow oxygen
  - Spinal immobilization
  - Unsuccessful IV attempt en-route hospital
Prehospital Intervention

- Focused
  - Clear breath sounds
  - Bruise to R mid-thigh
  - Mottled R lower leg
  - 146, 84, P, 36
- Scene time: 11 minutes. Transport to hospital: 20 minutes.

Emergency Department Assessment

Upon arrival the patient's condition was largely unchanged. Very pale.

- Head/neck: normal
- Chest: tender R clavicle
- Abdomen: normal
- Extremities: swelling R inguinal area; mottled R lower leg
- 140 thready, 88/64, 32

E.D. Diagnostic Testing

- Hct: 37%
- WBC: 38,000
- Chest x-ray: fractured R clavicle; pelvis/leg normal
**E.D. Intervention**

Patient remained pale, tachycardic, and hypotensive.
- IV, L.E.J.,; 500 cc challenge
While changing a diaper, the nurse noted a large amount of bleeding from the vagina. No source could be immediately identified. The child entered surgery 40 minutes after arrival in the E.D.

**Surgical Course**

- A large vaginal tear was found in surgery. The ischium was actually visible through the tear
- Tear was debrided and repaired, resulting in improved perfusion of R leg.
- Estimated blood loss: 200 cc (20% of total blood volume).

**Hospital Course**

- Slow recovery, with paraesthesias in R leg.
- ICU for 3 days
- Pediatrics unit 2 weeks
- 2 months rehabilitation
- No long-range complications
Prehospital Assessment

Called to a “child not breathing”. 11 yr. male on ground in obvious respiratory distress. Per friends, he fell off his bike and rapidly lost consciousness.

- Initial: Unconscious, unresponsive cyanotic, absent breath sounds
- Obvious respiratory efforts, retractions
- Focused: no visible trauma
  - blood in mouth, posterior pharynx
- 120, 130/P, 30 (no air movement)

Prehospital Intervention

- Initial
  - Suction
  - Obstructed airway maneuvers; unsuccessful intubation attempt
  - Continued efforts to ventilate
  - On scene: 9 minutes
- Ongoing: Cardiac arrest enroute. Following consultation, needle cricothyrotomy (16 angio) was performed.
Emergency Department Assessment

Upon arrival the patient had spontaneous respirations and a pulse. Obvious respiratory distress.
- Head/neck: marked respiratory distress
- Chest: minimal air movement
- Abdomen: normal
- Extremities: normal
- 116, 120/P, 28 with air exchange

E.D. Intervention

An emergency tracheostomy was performed within minutes of arrival in E.D. Immediate improvement in color and respiratory effectiveness.

E.D. Intervention

CT Scan
- Fractured larynx with significant edema and subcutaneous air
- The child was transferred to ICU 48 minutes after arriving in the E.D.
Hospital Course

Rapid recovery in ICU. Transferred to pediatric hospital on second hospital day. He made a full recovery with no deficits.