

Chest and Abdominal Trauma

Chest and Abdominal Trauma

Everything that you wanted to know, but didn't have the guts to ask!

Significance of These Injuries

- ◆ Thoracic trauma mortality is 10%.
- ◆ Chest injuries cause 1 of 4 trauma deaths in North America
- ◆ Abdominal trauma is the third leading cause of traumatic death.
- ◆ Abdominal trauma results in a mortality rate of 13-15%

Classification of Trauma

- ◆ Blunt
- ◆ Penetrating

Penetrating - Stabbing

- ◆ Stab to the posterior thorax.



Penetrating - Shooting

- ◆ GSW to chest.



The Chest



The Lungs



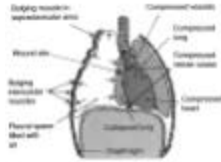
Airway Obstruction

- ◆ Signs and Symptoms

Open Pneumothorax

- ◆ Penetrating Thoracic Injury
- ◆ "Sucking" Chest Wound
- ◆ Signs and Symptoms

Open Pneumothorax



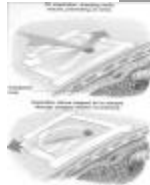
Open Pneumothorax



Open Pneumothorax

- ◆ Ensure Airway
- ◆ Occlusive Dressing w/ flutter valve
- ◆ Oxygen/ IV/ Monitor
- ◆ Rapid Transport

Open Pneumothorax



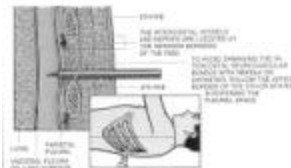
Pneumo, Hemo. Pneumo-hemo



Tension Pneumothorax

- ◆ Dyspnea
- ◆ Anxiety
- ◆ Tachypnea
- ◆ Diminished Lung Sounds
- ◆ Hypotension
- ◆ Distended Neck Veins
- ◆ Tracheal Shift (Late finding)

Tension Pneumothorax



Tension Pneumothorax

- ◆ Airway / Oxygen
- ◆ Needle Decompression
- ◆ IV
- ◆ Rapid Transport

Flail Chest

- ◆ Three or more adjacent ribs fractured in two or more places.
- ◆ Paradoxical Movement
- ◆ Obvious Deformity and Crepitus
- ◆ Respiratory Difficulty / Hypoxia
- ◆ Risk of Hemo or Pneumothorax

Flail Chest



Flail Chest

- ◆ Airway / Oxygen
- ◆ Stabilize Flail Segment
- ◆ ET Intubate / Assist Ventilations
- ◆ Rapid Transport
- ◆ IV / Monitor

Traumatic Aortic Rupture

- ◆ Most common cause of death in MVC's or falls from height, 90% die immediately.
- ◆ Most commonly injury at the ligamentum arteriosum.
- ◆ History at the scene is critical, no obvious signs of chest trauma.
- ◆ Infrequently, upper extremity hypertension and diminished lower extremity pulses.

Thoracic Trauma



Abdominal Trauma

There is probably no other area in the body that has more potential for concealing blood loss without showing external signs and symptoms than the abdomen.

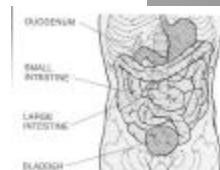
Abdominal Trauma



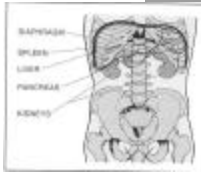
Abdominal Trauma

- ◆ 13-15% mortality overall
- ◆ 10-30% mortality from blunt trauma.
- ◆ 1-2% mortality from stab wounds
- ◆ 40% of all blunt abdominal trauma cases are missed until the patient decompensates.

The Abdomen



The Abdomen



Blunt vs. Penetrating

- ◆ Hollow Organs such as bowel and urinary bladder can burst or “pop” due to blunt force.
- ◆ Solid organs such as the liver or spleen are well protected by bone but can fracture due to blunt force.
- ◆ Penetrating injuries may involve multiple lacerations.

Hepatic Injuries

- ◆ Very large and vascular.
- ◆ Upper right quadrant pain.
- ◆ Abdominal wall rigidity and guarding.
- ◆ Rebound tenderness.
- ◆ Signs of hemorrhagic shock.

Hepatic Injuries



Splenic Injuries

- ◆ Left upper quadrant pain.
- ◆ Signs of hemorrhagic shock.
- ◆ Pain in the left shoulder (Kehr's sign).
- ◆ Abdominal wall rigidity and guarding.
- ◆ May be due to penetrating trauma at the 10th-12th rib.

Stomach Injuries

- ◆ Stomach ruptures from trauma are relatively rare, but usually fatal.
- ◆ Stomach injuries from penetrating trauma also carry a high mortality rate.
- ◆ Left upper quadrant pain.

Intestinal and Colon Injuries

- ◆ Mortality rates for intestinal ruptures or blowouts are 30%.
- ◆ The intestine and colon have a rich blood supply, mesenteric arteries branch directly off the aorta.
- ◆ Pain in all four quadrants.

Seat Belt Placement



Seat Belt Placement



Penetrating Abdominal Trauma



Bowel Eviseration



Bladder and Urethral Trauma

- ◆ Often due to blunt trauma to the pelvis.
- ◆ The empty bladder is well protected by the symphysis pubis.
- ◆ Suprapubic pain, abdominal rigidity and guarding, rebound tenderness.
- ◆ Urge but inability to urinate, hematuria.

Pelvic Fracture



Pelvic Injuries

- ◆ Very vascular, high incidence of exsanguination with critical injuries.
- ◆ Use PASG to stabilize suspected pelvic fracture.

Abdominal Trauma

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