

HEART INJURY

Cardiac Tamponade. Aortic Dissection. Blunt Cardiac Injury.

"PIMP" Questions

Beck's Triad

1. Hypotension
2. Muffled heart sounds
3. Distended neck veins

Ligamentum

Arteriosum: small ligament that attached aorta to pulmonary artery. This is the point where the aortic tear often occurs

Commotio cordis: Mild impact to the heart can cause cardiac arrest and death.

Approach to Cardiovascular Trauma

• 3 Critical Diagnoses:

1. **Cardiac Tamponade:** Blood in the pericardial sac (Usually due to penetrating trauma, but can be due to blunt) → Increased pressure on heart → Decreased preload → Hypotension → Death.

a. Management: Ultrasound of heart (During FAST Exam). If you see blood (fluid stripe) → Pericardiocentesis (remove the fluid) → if that doesn't work → Bedside Thoracotomy to cut pericardial sac and relieve pressure on heart.

2. **Aortic Dissection** (Tear in aortic wall): check pulses in each extremity, look for mediastinal widening on CXR, usually due to rapid deceleration injury

a. Management: CTA of Chest, if + → give Esmolol (to slow heart) and Nitroprusside (to lower BP). Also get surgery consult.

3. **Blunt Cardiac Injury:** Heart gets smacked against chest wall and causes bruising/swelling → Arrhythmia → Death

a. Management: EKG, can also check a troponin level, if have abnormalities: admit patient to hospital and watch for arrhythmias

References

Ross C, Schwab T. Cardiac Trauma. In: Tintinalli JE, Stapczynski J, Ma O, Yealy DM, Meckler GD, Cline DM. eds. Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 8e. New York, NY: McGraw-Hill; 2016. <http://accessemergencymedicine.mhmedical.com/content.aspx?bookid=1658&Sectionid=109387651>. Accessed October 23, 2016.