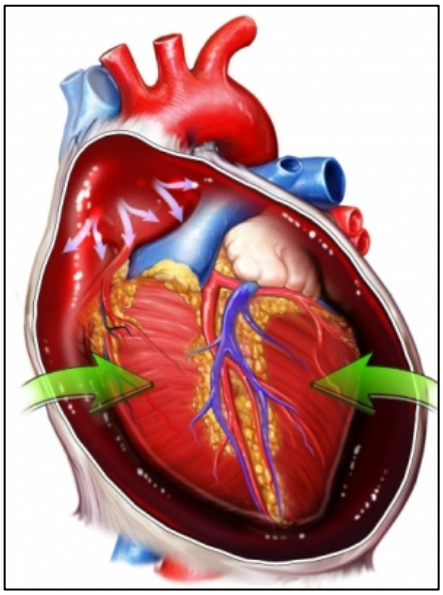
Cardiac Tamponade: Anesthetic Management

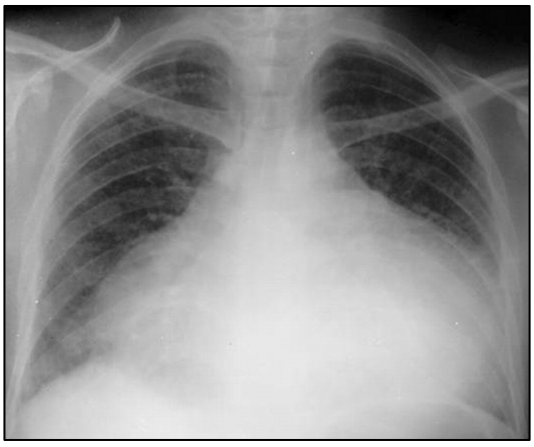


Anesthetic Pearl: "FAST, FULL, & FORWARD"

Problem: Decreased stroke volume from reduced ventricular preload secondary to increased intrapericardial pressure.

Causes: Open heart surgery, MI, perforation of ventricle by CVP, PA, pacemaker, cardiac cath, rarely endomyocardial biopsy, trauma to chest, Infection, collagen, renal / viral diseases, radiation, anticoagulation, aortic dissection.

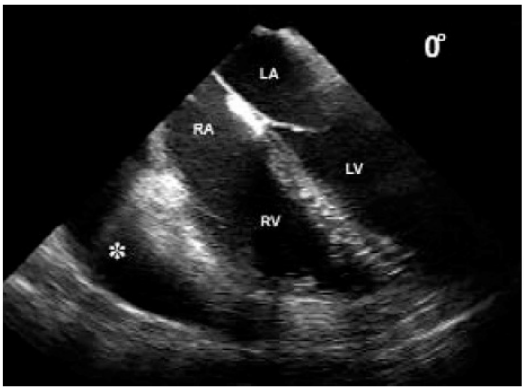
Diagnosis: **<u>High index of suspicion!</u>**
CVP = RV Diastolic = PAWP (Diastolic filling pressures equalize)
Hypotension & tachycardia
EKG - low voltage, electrical alternans,
pulsus paradoxus - >10 mm Hg is systolic pressure with inspiration
Kussmaul sign - distended neck veins with inspiration
CXR - globular cardiac silhouette
ECHO- large accumulation of fluid (blood) around and compressing the heart



Urgency: Depends on rate of accumulation of fluid.

Management: Pericardiocentesis by surgeon / cardiologist. Beware of LAD or ventricle laceration.

Anesthetic Goal: **Full, Fast, & Forward!** If possible, local anesthetic only for subxyphoid pericardiotomy or pericardiocentesis. Maintain high filling pressures, high heart rate, avoid any cardiac depressant, maintain spontaneous ventilation to prevent increased thoracic pressure as tolerated and gentle positive pressure ventilation if necessary. Potent vasopressers may be needed (epi, nor-epi, dobutamine, vasopressin) to optimize preload. Induction with Ketamine and pancuronium.



Post pericardial relief of tamponade: Increased risk for pulmonary edema from maintaining high CVP for preload. Diuretics or NTG are appropriate.