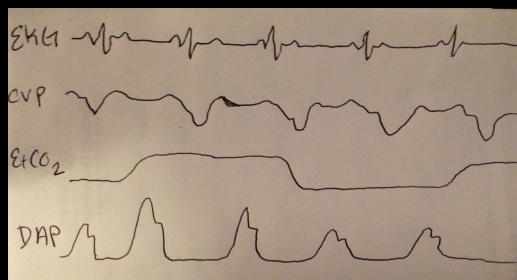


Hemodynamic waveform questions

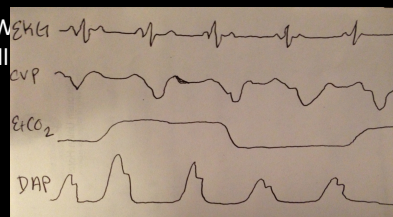
Joel Green Weltman, DVM
3/5/2013

1. You are continuously monitoring distal port pressures and the diastolic pressure suddenly decreases from 15 to zero. The most likely cause is
 - a) Distal displacement to pulmonary artery branch due to forward flow
 - b) Proximal displacement due to catheter softening
 - c) Clot or fibrin formation within the catheter lumen
 - d) Accidental inflation of the balloon

2. With continuous monitoring of your critically ill golden retriever, you note the following:



2. With continuous monitoring of your critically ill golden retriever, you note the following:



Which of the following is your next step?

3. Which of the following is likely to result in a pulmonary artery wedge pressure greater than the left ventricular end diastolic pressure?
 - a) Left to right patent ductus arteriosus
 - b) Mitral regurgitation
 - c) Positive pressure ventilation
 - d) Systemic hypertension

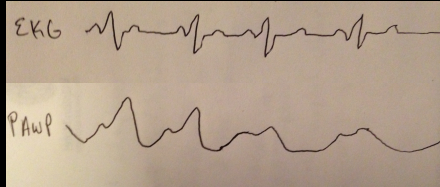
4. Please explain why a pulmonary arterial catheter will be most accurate if placed into the ventral thorax

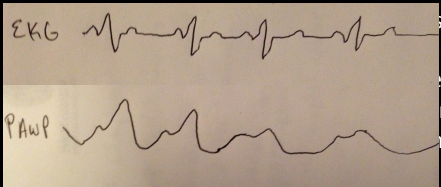
In the ventral thorax the pressure in the alveolus is lower than both the pulmonary artery and vein due to weight of the lung. So all capillaries should be open and allow for transmission of the left atrial pressure and no transmission of alveolar pressure to the catheter tip

5. The anacrotic notch is associated with?

- a) Isovolumetric contraction
- b) Opening of the aortic valve
- c) Closure of the mitral valve
- d) Ventricular emptying

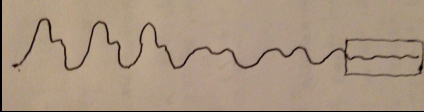
6. In your 14 year old maltese with acute onset respiratory distress and tachycardia your nurse administered a drug but wasn't sure which drug it was. Based on this pulmonary artery wedge pressure reading, which is the most likely?



6. 

- a) Lasix
- b) Dobutamine
- c) Norepinephrine
- d) Nitroprusside

7. While attempting to get pulmonary artery wedge pressures the following trace is obtained. What is the most likely cause of the waveform in the box?

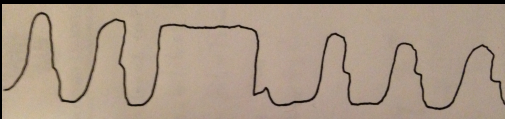


- a) Pulmonary artery rupture
- b) Distal displacement of the catheter
- c) Overwedging
- d) Myocardial failure

8. Please list 4 factors which determine myocardial oxygen supply

- Diastolic pressure
- Diastolic time
- Coronary artery patency/anatomy
- Oxygen extraction

9. You have concerns for inaccuracy in your systemic arterial pressure measurements and perform a flush test (aka a dynamic pressure response test)?



- a) What is the problem?

9. You have concerns for inaccuracy in your systemic arterial pressure measurements and perform a flush test (aka a dynamic pressure response test)?

a) What is the problem?

Overdampening

b) What mechanical issues may be contributing to this?

Blood clot or air in the tubing, excessive length of tubing, low compliant tubing, leaks or kinks in the circuit

c) What consequences may this be having on your pressure readings?

Falsely decreased systolic pressure, falsely elevated diastolic pressure

10. A Swan-Ganz catheter with capabilities for thermal dilution will typically have how many ports?

5

a) And they are?

a) Right atrial lumen

b) Pulmonary artery lumen

c) Balloon

d) Proximal infusion port

e) Thermistor plug in