

A 3y F/S Labrador is presented for tachypnea, weakness, and scleral hemorrhage. Five days previously she is known to have ingested brodifacoum-based rodenticide for which no intervention was pursued, until now. Physical examination and initial laboratory findings are as follows:

T 98.4 P 162 R 64 mm pale CRT <1s Weight 20kg BP 100/40 (60)
 Bounding pulses, muffled heart and lung sounds
 Breathing with paradoxical abdominal wall motion and increased inspiratory effort
 Thoracic wall pain on palpation, generalized weakness
 The patient has a syncopal event during the physical examination

PCV 12% TS 4.2 Na 151 K 3.4 Cl 121 iCa 0.82
 pH 7.21 pCO₂ 34 HCO₃ 14 SPO₂ at 96% on room air
 Glu 154 Lac 3.2 Crea 1.4 -100% with O₂ supplementation

1. Provide a ranked problem list and the interventions you wish to provide in the next 10 minutes, and next 60 minutes

Problem	10 Mins	60 mins
Brodifacoum toxicity w/scleral hemorrhage		(1) PT/PTT, CBC w/diff, Chemistry, Blood gas, electrolytes, type and crossmatch (PRE TRANSFUSION) (1) 5mg/kg SQ Vitamin K (takes 4-6 hours to see improvement in PT, normalization within 24-48 hrs)
Suspected Hemothorax due to anti-coag rodenticide ingestion -Tachypnea, muffled heart and lungs, resp diff, chest wall pain	(5) T-fast and A-fast (4) 0.2mg/kg Methadone IV (1) O ₂ supplementation	(2) Thoracic radiographs (3) Therapeutic Thoracocentesis +/- autotransfusion (Based on ventilation and oxygenation evaluation)
Hypovolemic Hemorrhagic Shock w/Anemia -Shock, tachycardia, pale mm, weakness, hypotension, mild hypothermia	(2) IVC x2 (pull for full bloodwork) (3) FFP (thawed in fridge, 5mL/kg over 10 mins, at least 20mL/kg total possibly 30mL/kg), then DEA 1.1 neg whole blood transfusion (or pRBCs in other IV Catheter)	(1) second IVC if not already placed (3) Address hypocalcemia (co-factor for clotting factors) -not in same IVC as blood! -Calcium gluconate: 100-150mg/kg, when using 10% CaGluc=1mL/kg
Syncopal Event	(1) ECG, SPO ₂	
Acidemia: compensated metabolic acidosis		

Difference between frozen and fresh frozen:

-FFP: clotting factors, anti-thrombin,

-FP: LOOK UP DIFFERENCES FOR NEXT WEEK in regards to treating rodenticide patients

-ALSO LOOK UP ANTI-COAGULANTS USED IN DONOR BLOOD

-Vitamin K dependent factors: 2, 7, 9, 10

Recheck clotting times:

-PT: 1-2 hours after first transfusion (want it to be within 2-3 times normal with no clinical bleeding), then consider 4 hours post transfusion, then again at 12 hours post-transfusion

2. Approximately 15 minutes into the transfusion the patient becomes more tachypneic, her temperature rises, she collapses, has a very thready femoral pulse, and loses consciousness. Describe in detail how you will manage this severe transfusion reaction. Include all the drug doses, any mixing instructions, etc exactly as you would tell them to the individuals assisting you.

Anaphylactic shock: treatment is epinephrine, epinephrine, epinephrine, fluids

-Vasodilatory (address w/epi) and hypovolemic (address w/fluids) and maldistributive shock

Airway (intubate if patient not fighting you regarding it), monitoring equipment (If not already on: ECG, BP, SPO₂, ETCO₂ if intubated)

Stop current transfusion(s)

Epinephrine (0.01mg/kg **IM for first dose**)

IV bolus: Plasmalyte 900mL (1/2 shock dose) over 15 mins (Then consider Vetstarch 5mL/kg bolus in 15 mins then 1mL/kg/hr)

-Reassess patient: if not responding then epinephrine CRI

Recheck bloodwork (PCV/TS, Venous blood gas, iCa, electrolytes, glucose)

-If rapid drop in PCV/TS: bolus more blood in (different bag)

Which is more likely to cause a reaction? Plasma or RBCs? Unsure, no good studies in vetmed.

-Type animal, crossmatch majors and minors to what is hanging (if using whole blood)

-If you can't figure out which then hang new bags OR start plasma at 10th rate of initial (can always tap patient later and give own RBCs back)

3. Discuss the major differences in diagnosis and management between diabetic ketoacidosis and hyperglycemic hyperosmolar syndrome. Be as detailed as possible.

	DKA	HHS								
Pathogenesis/pathophysiology	<table border="1" style="width: 100%; height: 40px;"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					<table border="1" style="width: 100%; height: 40px;"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>				
History, clinical signs, exam findings										
Major lab findings										
Treatment										

4. Discuss the major similarities and differences between diabetes insipidus and the syndrome of inappropriate anti-diuretic hormone secretion. Be as detailed as possible.

	DI	SIADH
Pathogenesis/pathophysiology		
History, clinical signs, exam findings		
Major lab findings		
Treatment		