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2015 Miniboard Exam
Clinical Pathology

1. An aspirate from a nasal mass on a dog yields round cells with cord-like chromatin; clear, round cytoplasmic vacuoles; and mitotic figures.
What is the most likely interpretation?

A. Plasmacytoma
B. Cutaneous histiocytosis
C. Transmissible venereal tumor
D. Poorly granulated mast cell tumor

2. In a dog with the following laboratory tests, the most likely interpretation is:

TEST	PATIENT	REFERENCE INTERVAL	
Folate	6.0	4.8-13.0	µg/L
Cobalamin	125	200-400	ng/L
TLI	20	5.2-35	µg/L

TLI = trypsin-like immunoreactivity

A. Bacterial overgrowth
B. Distal small intestinal disease
C. Diffuse small intestinal disease
D. Proximal small intestinal disease

3. In a cat with the following laboratory test results, the most likely interpretation is:

   i. Following TRH stimulation, T4 increases.
   ii. Following L-T3 administration, T4 decreases.

A. Normal thyroid axis
B. Hyperthyroidism
C. Hyperthyroidism and diabetes mellitus
D. Hyperthyroidism and chronic renal disease

4. Causes of myelophthisis include all EXCEPT:

A. Leukemia
B. Myelofibrosis
C. Metastatic cancer
D. Lead intoxication

5. In a dog with the following laboratory data, the most likely interpretation is:

TEST	PATIENT	REFERENCE INTERVAL
Iron	80	94-122 µg/dL
TIBC	350	282-366 µg/dL
Ferritin	100	240-1300 ng/dL

TIBC = Total iron binding capacity

A. Iron deficiency
B. Inflammation
C. Liver disease
D. Iron overload

6. The dog in question #5 (above) would most likely have the following type of anemia?

A. Normocytic, normochromic, non-regenerative
B. Macrocytic, hypochromic, regenerative
C. Microcytic, hypochromic, non-regenerative
D. Microcytic, hyperchromic, regenerative

7. The function of the protein hemopexin is to:

A. Bind hemoglobin
B. Bind haptoglobin
C. Bind ferriheme
D. Bind dimerized hemoglobin

8. The Russell viper venom test is used to assess:

A. the common pathway
B. the intrinsic pathway
C. the extrinsic pathway
D. the intrinsic and common pathways

9. Which of the following changes are most consistent with a fibrinogen deficiency?

	plt count	BMBT	APTT	PT	TT	D dimers
A	decreased	increased	increased	increased	increased	increased
B	WRI	WRI	increased	increased	increased	WRI
C	WRI	WRI	WRI	WRI	increased	WRI
D	WRI	increased	WRI	WRI	increased	WRI

WRI = within reference interval
increased means the test was prolonged

10. The following lab data is most consistent with which condition(s)?

Analyte	Patient	Reference Interval	
Anion Gap	22.0	6-14	
Total CO_2	34.0	22-34	mEq/L
Chloride	85	99-107	mEq/L
BUN	95	10-25	µg/L
Creatinine	6.2	0.5-2.2	mg/dL

A. Mixed metabolic acidosis and metabolic alkalosis
B. Simple titrational metabolic acidosis only
C. Metabolic alkalosis only
D. Respiratory acidosis and metabolic alkalosis

11. The following changes are most suggestive of which?

Analyte	Patient	Reference Interval	
Blood pH	8.0	7.31-7.42	
pCO_2	22	29-42	mEq/L
tCO_2	12	14-26	mEq/L

A. Metabolic alkalosis
B. Respiratory alkalosis
C. Respiratory alkalosis with evidence of metabolic compensation
D. Metabolic alkalosis with evidence of respiratory compensation

12. A clinical pathology test with few false positives compared to true positive test results has:

A. Diagnostic accuracy
B. Diagnostic specificity
C. Diagnostic sensitivity
D. Positive predictive value

13. The biochemical test of choice on abdominal fluid to help confirm uroperitoneum is:

A. Potassium
B. Creatinine
C. Urea nitrogen (BUN)
D. Sodium

14. In general, which of the diagnostic tests listed below is most sensitive in identifying inflammation in adult cattle?

A. Neutrophil count
B. Gamma globulin concentration
C. Lymphocyte count
D. Fibrinogen concentration

15. The species most likely to infect lymphocytes in dogs is:

A. *Ehrlichia canis*
B. *Ehrlichia ewingii*
C. *Anaplasma phagocytophilum*
D. *Anaplasma platys*

16. A feline neutrophil observed on a blood smear that has increased cytoplasmic basophilia and vacuolation, and a few blue-grey angular inclusions indicates:

A. Degenerative change
B. Toxic change
C. Lysosomal storage disease
D. Birman cat neutrophil abnormality

17. Which enzyme is most sensitive in identifying cholestasis in horses and cattle?

A. ALP
B. SDH
C. GGT
D. ALT

18. Canine Fanconi-like syndrome is associated with?

A. Chronic hyperglycemia and glucosuria
B. Hypoglycemia and glucosuria
C. Normoglycemia and glucosuria
D. Chronic hyperglycemia without glucosuria

19. Which of the following crystal is considered a normal finding in equine urine?

A. Calcium carbonate
B. Calcium oxalate monohydrate
C. Cholesterol crystals
D. Ammonium biurate

20. Which of the following values indicates maximum clot strength as measured using thromboelastography?

A. R
B. α
C. K
D. MA

21. Which species rarely, if ever, releases reticulocytes into circulation?

A. Cats
B. Horses
C. Cattle
D. Birds

22. Total protein in serum is commonly measured using which method or technique?

A. Biuret method
B. Bromocresol green
C. Bromocresol purple
D. Lowry method

23. The following test results are from a dog. What is the most likely diagnosis?

Analyte	Patient	Reference Interval
PT	17.0	5.8-7.9 seconds
aPTT	15.0	13.1-17.4 seconds
Russell Viper Venom test	13	12-15 seconds

A. Hemophilia B
B. Factor X deficiency
C. Hemophilia A
D. Factor VII deficiency

24. The nitroprusside reaction is commonly used to measure which?

A. ketones
B. ß-hydroxybutyrate
C. glucose
D. bilirubin

25. A dog with brown urine, an absence of red blood cells on urine sediment exam, and normal plasma color most likely has which?

A. hematuria
B. hemoglobinuria
C. methemoglobinuria
D. myoglobinuria