

2017 Mock Exam Knowledge

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JPC

1. A ROC curve of a test with 50% sensitivity and 50% specificity would look like:
 - A. A diagonal line from the bottom left to the top right
 - B. A diagonal line from the top left to the bottom right
 - C. A vertical line present at any point on the graph
 - D. A curved line that approaches the top left corner

2. A vaginal swab from a dog contains over 90% superficial, often anucleate, keratinized squamous cells. What stage of the estrus cycle is she in?
- A. Diestrus
 - B. Estrus
 - C. Proestrus
 - D. Anestrus

3. A major end-product of nitrogen metabolism in birds is:
- A. blood urea nitrogen (BUN)
 - B. Biliverdin
 - C. uric acid
 - D. creatinine

4. Urine entering the distal tubule is _____ -
osmotic compared to plasma.

A. Hyper-osmotic

B. Iso-osmotic

C. Hypo-osmotic

5. The nitroprusside reaction detects which type of molecule(s)?

- A. Glucose
- B. Creatinine
- C. Ketones
- D. proteins

6. Which of the following contains CD11d positive cells?
- A. Reactive histiocytosis
 - B. Histiocytic sarcoma
 - C. Langerhans histiocytosis
 - D. Hemophagocytic histiocytic sarcoma

7. As the prevalence of a disease decreases which is likely to occur?

- A. positive predictive value increases
- B. negative predictive value increases
- C. false negatives increase
- D. false positives decrease

8. If there are fewer than 40 reference individuals available when generating reference intervals (RI), how should the RI be generated?
- A. mean +/- two standard deviations
 - B. non-parametrically, using the rank-percentile method
 - C. Parametrically
 - D. the highest and lowest values observed

9. The species that can infect platelets of dogs is:

A. *Anaplasma platys*

B. *Ehrlichia canis*

C. *Ehrlichia ewingii*

D. *Anaplasma phagocytophilum*

10. Six year old, spayed female, miniature schnauzer

Analyte	Patient	Reference Interval
glucose	325	65-122 mg/dL
triglycerides	720	130-370 mg/dL
ALP	442	35-280 U/L
Sodium	141	145-158 mEq/L
Chloride	103	106-120 mEq/L

11. Hypermagnesemia has been associated with which of the following conditions?

- A. Dehydration
- B. Hypoparathyroidism
- C. diabetes mellitus
- D. lactation tetany

12. Adult dog

Analyte	Patient	Reference Interval
HCT	30	37-55 %
MCV	57	60-72 fL
MCHC	30	33-37 g/dL
reticulocytes	60,000	0-60,000 $\times 10^3/\mu\text{L}$

The technologist noted: acanthocytes, schistocytes and leptocytes.

13. An adult dog has a normal baseline cortisol concentration and fails to suppress with both the low and high-dose dexamethasone suppression tests. What is the most likely diagnosis?

- A. Normal pituitary-adrenal axis
- B. Pituitary-dependent hyperadrenocorticism
- C. Functional adrenocortical neoplasm
- D. Iatrogenic hyperadrenocorticism

14. Young adult dog

Analyte	Patient	Reference Interval
BUN	47	7-28 mg/dL
creatinine	2.4	0.9-1.7 mg/dL
sodium	133	145-158 mEq/L
potassium	5.9	4.1-5.5 mEq/L
calcium	13.8	9.0-11.2 mg/dL
USPG	1.020	varies

15. Diminished annexin-5 binding to platelets, using flow cytometry, is supportive of?

- A. Scott syndrome
- B. Leukocyte adhesion deficiency type III
- C. Chediak-Higashi syndrome
- D. Glanzmann thrombasthenia

16. Adult dog

Analyte	Patient	Reference Interval
Total T4	1.2	1.4-4.0 ug/dL
Free T4	1.3	1.2-3.4 ng/dL
TSH	0.2	0.1-0.45

17. 6 year old Arab gelding with a 2 week history of edema and inappetance

Analyte	Patient	Reference Interval
BUN	91	13-23 mg/dL
creatinine	10.4	0.1-1.7 mg/dL
calcium	15.3	10.4-12.9 mg/dL
total protein	4.7	5.5-6.9 g/dL
albumin	1.8	2.5-3.9 g/dL
globulin	2.9	1.9-3.9 g/dL
HCO ₃ ⁻	32.1	25-31 mmol/L
Anion gap	9	10-16

18. 23 year old Thoroughbred gelding that presented for acute onset of ataxia, depression and fever.

Analyte	Patient	Reference Interval
Total bilirubin	7.5	0.3-3.0 mg/dL
Albumin	2.9	2.4-3.8 g/dL
BUN	45	11-26 mg/dL
ALP	231	109-352 U/L
AST	243	190-380 U/L
Ammonia	406	7-49 mmol/L
bile acids	4.9	0-19.0 mmol/L

19. 1 year old Cavalier King Charles Spaniel

Analyte	Patient	Reference Interval
Platelet count	75,000	164-475 x10 ³ /uL
Mean platelet volume (MPV)	16.8	10-12 fL
Plateletcrit	0.25	0.129-0.403%

20. 8-year-old, male castrated American Pit Bull. His sclera, conjunctiva, mucous membranes and pinna are icteric.

Analyte	Patient	Reference Interval
RBC	1.13	5.5-8.5 x 10 ⁶ /uL
Hct	9.34	35-52%
Hemoglobin	2.9	12-18 g/dL
Platelets	105	200-450 x 10 ³ /uL
Albumin	1.7	2.5-3.8 g/dL
Total Bilirubin	9.0	0.1-0.3
Cholesterol	113	129-297 mg/dL
ALT	1226	8-65 U/L

Rare siderotic inclusions present in RBCs.

21. Which of the following is likely to be clinically silent?

- A. Factor 8 deficiency
- B. Hageman's syndrome
- C. Factor 9 deficiency
- D. Factor 7 deficiency

22. In which of the following conditions is cobalamin likely to be normal?

- A. exocrine pancreatic insufficiency
- B. bacterial overgrowth
- C. distal small intestinal disease
- D. proximal small intestinal disease

23. Which enzyme deficiency is associated with myelofibrosis?

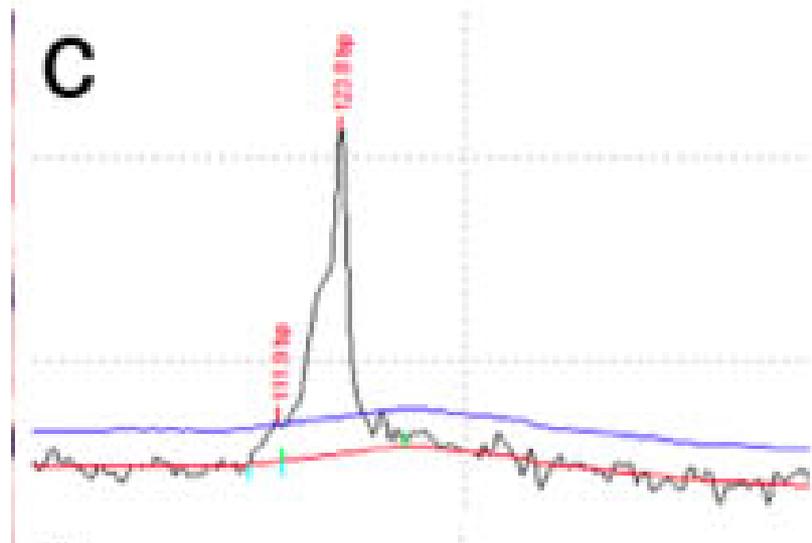
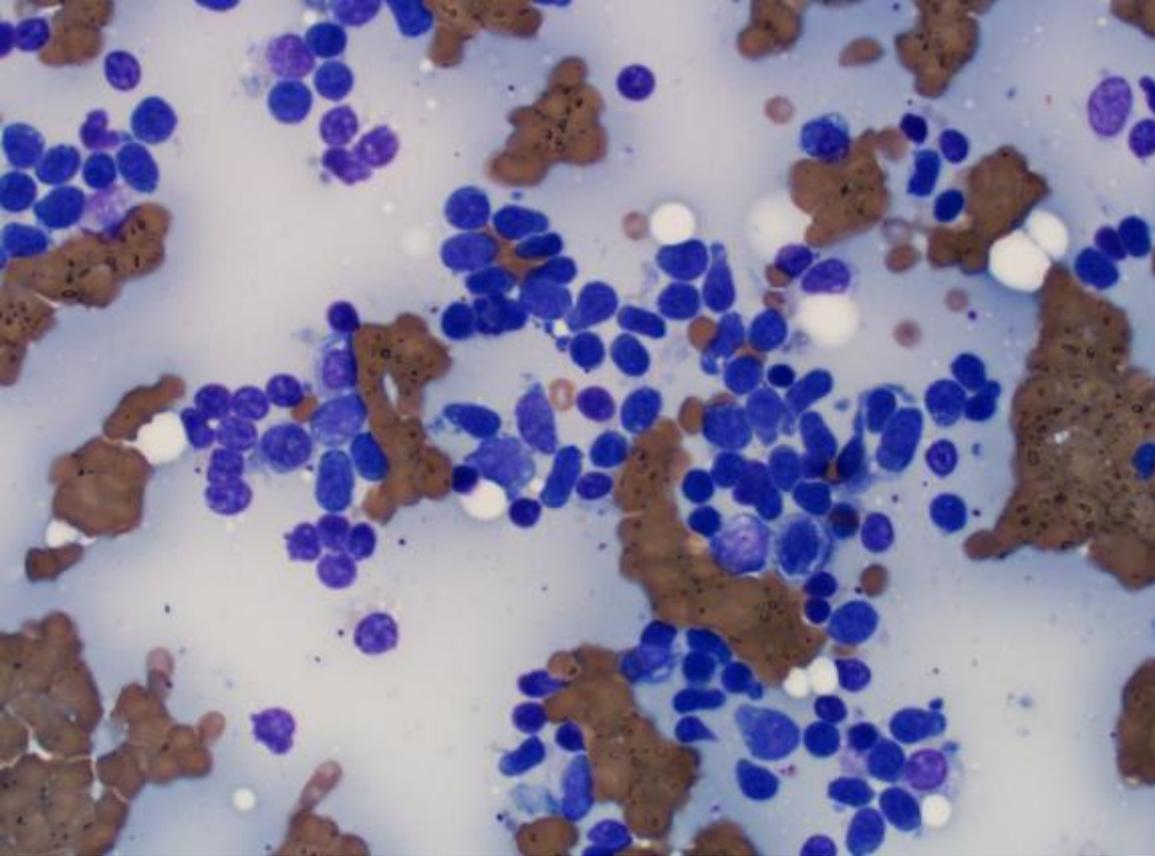
- A. glucose-6-phosphate dehydrogenase
- B. Phosphofructokinase
- C. pyruvate kinase
- D. methemoglobin reductase

24. Rabbits are highly dependent on which organ or system for serum calcium regulation?

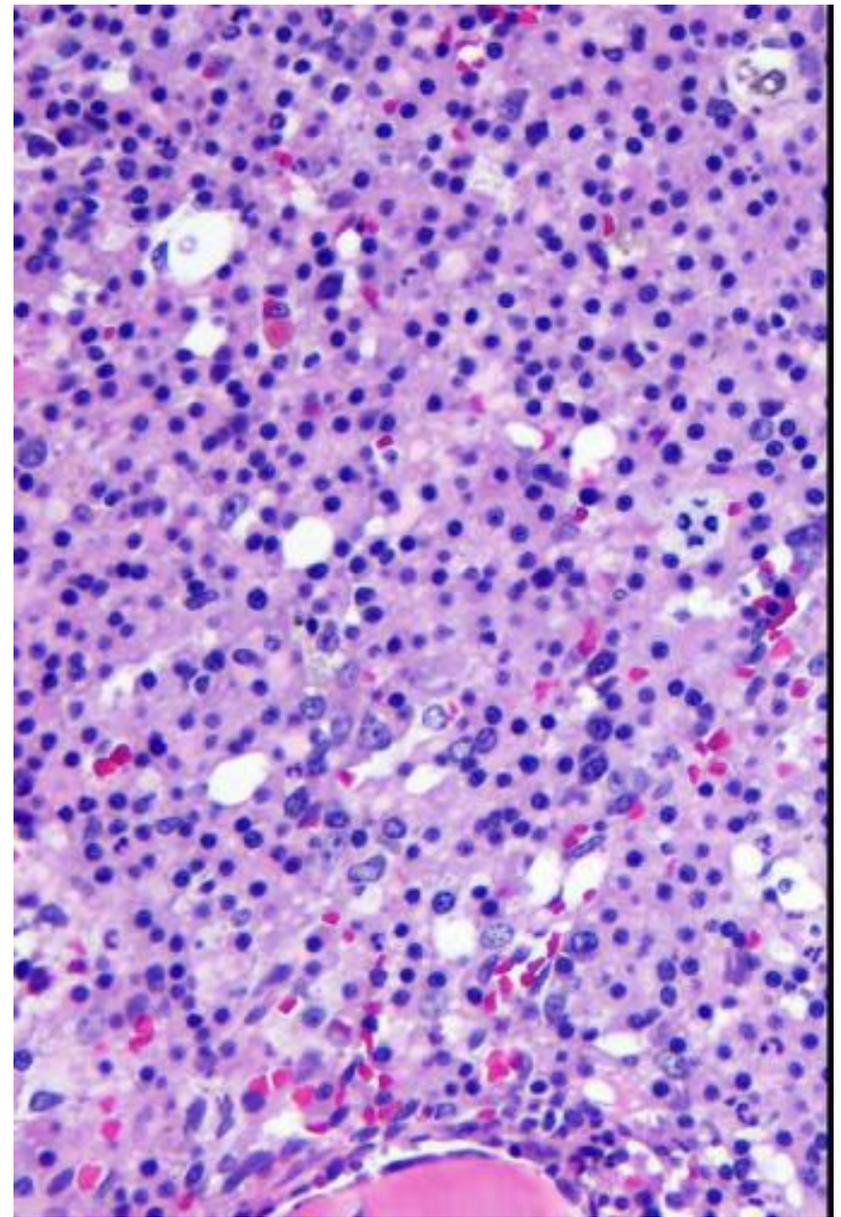
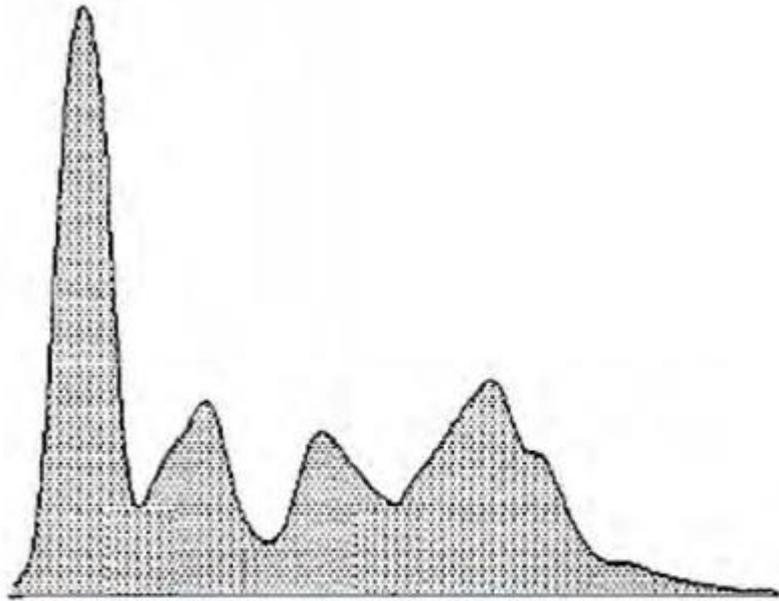
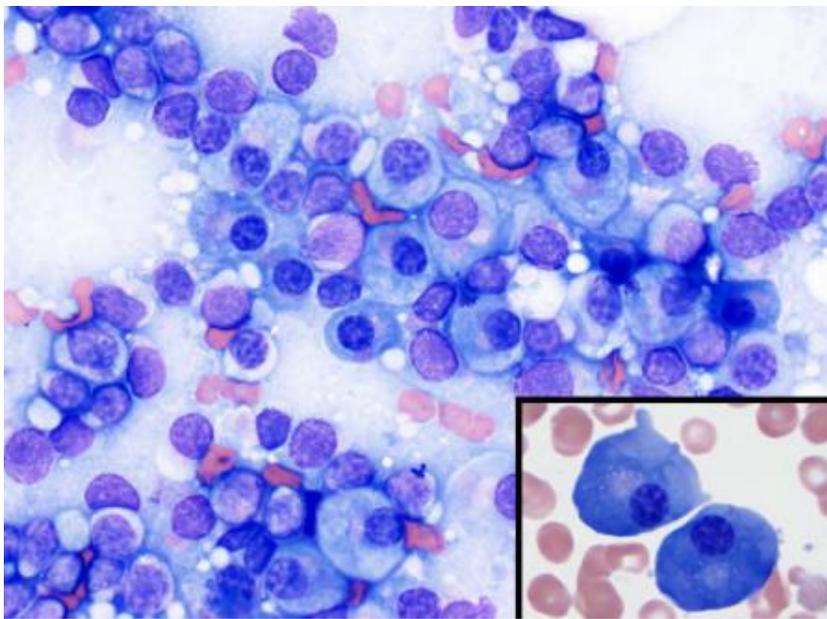
- A. Kidneys
- B. small intestine
- C. Cecum
- D. biliary

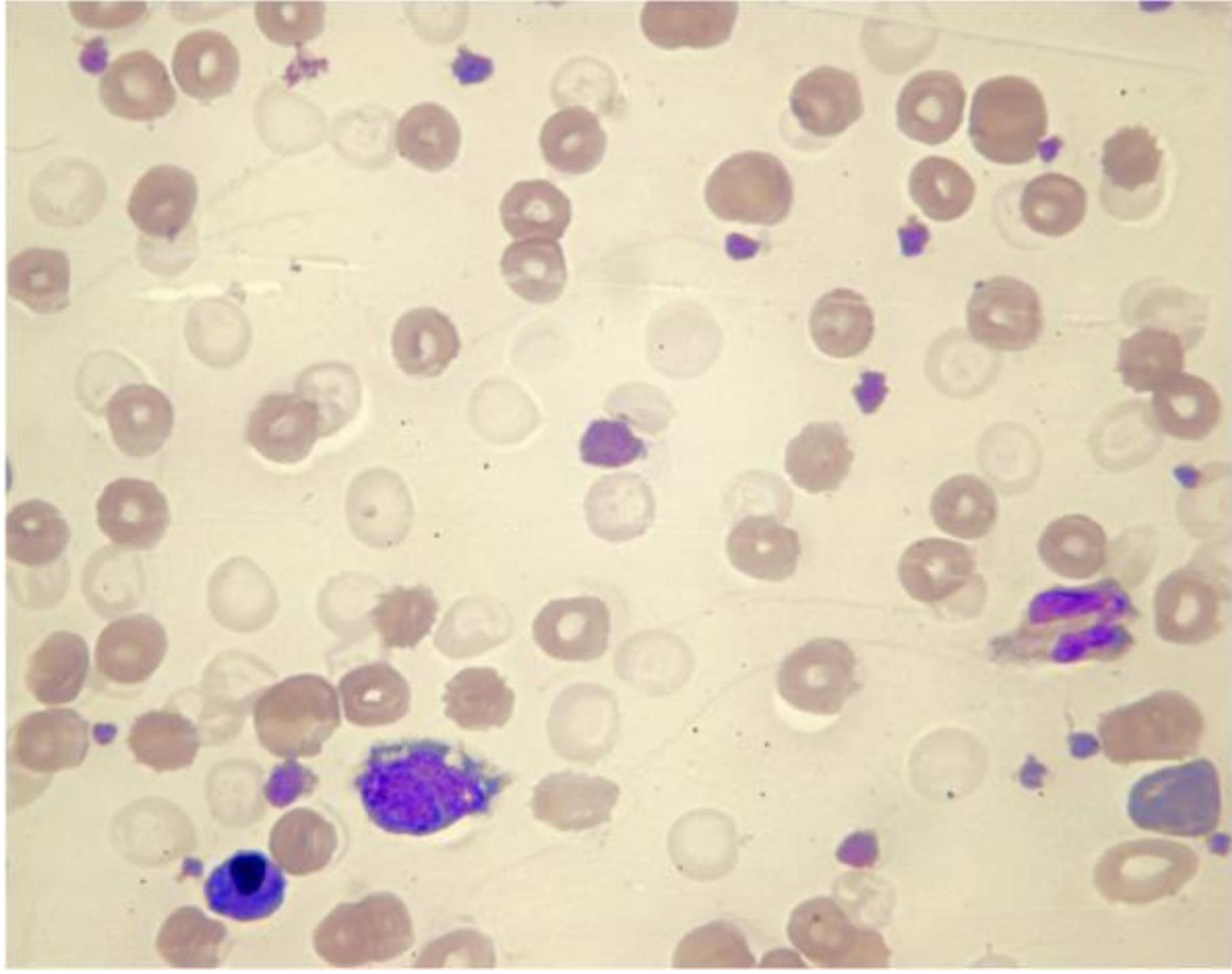
25. Hemolytic anemia in owl monkeys has been reversed and prevented by administration of:

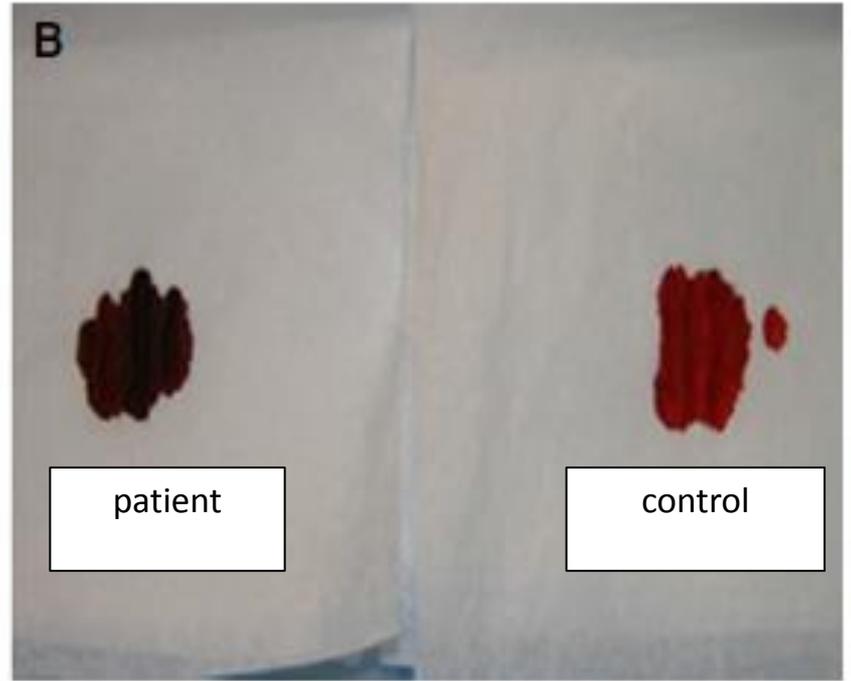
- A. Vitamin A
- B. Vitamin C
- C. Vitamin D
- D. Vitamin E



27







30. A 4-week-old chick with widespread lymphoid necrosis and pulmonary cryptosporidiosis has likely been infected with:

- A. Avian birnavirus
- B. Avian bornavirus
- C. Avian rubulavirus
- D. Avian circovirus

31. Which of the following is NOT typically associated with *Rhodococcus equi* infection in dogs?

- A. Ulcerative colitis
- B. Endophthalmitis
- C. Endocarditis
- D. Suppurative pleuropneumonia

32. Which of the following is the most significant predictor of recurrence of feline injection-site sarcoma?

- A. Incomplete surgical margins
- B. Increased expression of MMP-2 and MMP-9
- C. Increased Ki-67 expression
- D. Tumor diameter ≥ 3.75 cm

33. In a recent study of cats with chronic kidney disease, which of the following was associated with increased severity of tubular degeneration/necrosis, inflammation, fibrosis and glomerulosclerosis?

- A. Azotemia
- B. Proteinuria
- C. Hyperphosphatemia
- D. Hypercalcemia

34. Which of the following is a common concurrent finding in cats with alimentary large cell lymphoma?

- A. Obstructive intestinal pseudotumor
- B. Eosinophilic sclerosing fibroplasia
- C. Mucosa-invading bacteria
- D. DIC

35. Which of the following the most useful sample for microscopic diagnosis of HPAI infection in chickens?

- A. Oral mucosa
- B. Bursa
- C. Eye
- D. Egg
- E. Feather

36. What is the likely etiology in a red-tailed hawk with pectenitis, choroiditis and retinal necrosis?

- A. *Salmonella enterica* subspecies *arizonae*
- B. Lead toxicity
- C. West Nile Virus
- D. *Diplostomum spathaceum*

37. In cats with oral squamous cell carcinoma, increased expression of which of the following is often associated with increased bone invasion and osteoclastogenesis?

- A. p53
- B. PTHrP
- C. P14
- D. Ki67

38. Which is the most common finding in ferrets infected by ferret systemic coronavirus (FRSCV)?

- A. Fibrinosuppurative serositis
- B. Multisystemic granulomatous inflammation
- C. Lymphohistiocytic phlebitis
- D. Necrotizing enteritis

39. What is the likely cause in a broiler chick with symmetrical hind limb paralysis and spondylitis of the free thoracic vertebra?

A. *Ochroconis gallopavum*

B. *Salmonella enterica* subspecies *arizonae*

C. *Enterococcus cecorum*

D. Alpha retrovirus

E. Vitamin A deficiency

40. The 4 main lesions of collie eye anomaly include all except?

- A. Choroidal hypoplasia
- B. Retinal dysplasia
- C. Coloboma
- D. Iris hypoplasia
- E. Intraocular hemorrhage

41. The leading cause of death among canine leishmaniosis patients is:

- A. ulcerative dermatitis
- B. atrophic myositis of masticatory muscles
- C. chronic proteinuric nephritis
- D. Meningoencephalomyelitis

42. All of the following EXCEPT _____ have been used in dogs to demonstrate clonality?
- A. PCR for antigen receptor gene rearrangement
 - B. X-chromosome inactivation pattern (XCIP)
 - C. Flow cytometric immunophenotypic assessment
 - D. laser capture microdissection

43. Which of the following is a common sequela to functional pheochromocytoma in a horse?

- A. Hypoglycemia
- B. Hyperlactatemia
- C. Elevated ALP
- D. Elevated ACTH

44. Which of the following causes pulmonary edema and fibrosis in swine?

A. *Heliotropium* spp.

B. *Xanthium* spp.

C. *Senecio* spp.

D. *Cynoglossum* spp.

45. In cattle, which of the following are highly sensitive to fluorine?

- A. PCT epithelial cells
- B. Bone marrow
- C. Ameloblasts
- D. Intestinal crypt epithelium

46. What is the most likely explanation in an intestine with the following histologic features: extensive epithelial desquamation, red blood cell hemolysis, numerous intravascular bacilli and gas bubbles.

- A. Ischemic necrosis
- B. Bacterial septicemia
- C. DIC
- D. Autolysis

47. A captive golden lion tamarin that is fed “pinky” mice and has multifocal, random hepatic necrosis and lymphocytic meningitis has likely been infected with which of the following?

- A. Flavivirus
- B. Filovirus
- C. Arenavirus
- D. Coronavirus

48. Which of the following nematodes is associated with urinary bladder tumors in the rat?

- A. *Schistosoma haematobium*
- B. *Clonorchis sinensis*
- C. *Trichosomoides crassicauda*
- D. *Cysticercus fasciolaris*

49. “Nurse cells” are associated with which of the following?

- A. *Cysticercus cellulosae*
- B. *Trichinella spiralis*
- C. *Hepatozoon americanum*
- D. *Sarcocystis* spp.

50. Which of the following is NOT a lesion seen in swine with hepatosis dietetica?:

- A. Massive hepatic necrosis
- B. Degeneration of skeletal and cardiac muscle
- C. Serous effusions
- D. Fibrinoid necrosis of arterioles
- E. Ulceration of the cecal and colonic mucosa

51. Which is true regarding *Chlamydophila abortus* (ovine enzootic abortion) in ewes?

- A. Causes necrotizing placentitis of the cotyledon only with no vasculitis
- B. Causes targetoid hepatic lesions in fetus
- C. The elementary body is infectious
- D. Ewes infected late in gestation abort in the final trimester of pregnancy

52. Which is a toxin from the fungus
Neotyphodium coenophialum on fescue?

- A. Ergovaline
- B. Paxilline
- C. Fumonisin B1
- D. Lolitrem B

53. The most common lesion of *Yersinia pseudotuberculosis* infection in goats is:

- A. Conjunctivitis
- B. Enteritis
- C. Mastitis
- D. Hepatitis

54. In bovine adenoviral enteritis, viral inclusions are present in:

- A. M cells
- B. Macrophages
- C. Endothelial cells
- D. Crypt enterocytes

55. What is the most likely etiology in a horse with pulmonary edema, gelatinous edema of nuchal ligament and hydropericardium?

- A. Orbivirus
- B. Henipavirus
- C. Circovirus
- D. Picornavirus

56. Encysted *Stephanurus dentatus* is most commonly found where in swine?

- A. Gingiva
- B. Perirenal fat
- C. Testicle
- D. Brain

57. All of the following *except* _____ are toxins associated with anthrax?

- A. protective antigen
- B. hemolysin
- C. lethal factor
- D. edema factor

58. In a recent retrospective study of geriatric chimpanzees, there was a statistically significant association between cardiac fibrosis and:

- A. Cerebral infarcts
- B. Glomerulosclerosis and renal fibrosis
- C. Chronic passive hepatic congestion
- D. Atherosclerosis

59. Which best characterizes the lesion of tungiasis in cattle?

- A. Eosinophilic urocystitis
- B. Ulcerative enteritis
- C. Erosive esophagitis
- D. Proliferative dermatitis

60. Spontaneous, generalized DJD occurs in nearly 100% of aged _____.

- A. Mice
- B. Gerbils
- C. Guinea pigs
- D. Rabbits

61. Which of the following mouse strains are blind due to homozygosity of *rd1* allele?

- A. FVB/N
- B. 129
- C. BALB/c
- D. NOD

62. Crystals associated with mouse acidophilic macrophage pneumonia are composed of all *except*?

- A. Ym1 chitinase
- B. lysozyme
- C. iron
- D. a1-antitrypsin

63. The microscopic finding in the pig of lymphoplasmacytic and histiocytic interstitial pneumonia with necrotic alveolar macrophages and aggregates of free chromatin is highly suggestive of:

- A. PRRS virus
- B. PCV-2
- C. Swine Influenza
- D. Suid Herpesvirus 1
- E. *Mycoplasma hyopneumoniae*

64. The incidence of membranoproliferative glomerulonephritis approaches 100% in which mouse strain?

- A. Pkhd^{1|1}
- B. B6C3F1
- C. FVB
- D. NZB

65. In guinea pigs *Klossiella cobayae* schizonts are typically found where?

- A. Hepatocytes
- B. Erythrocytes
- C. Macrophages
- D. Glomerular endothelium

66. What is the likely cause in a rabbit with portal hepatic necrosis, pulmonary hemorrhage and edema, and thrombocytopenia?

- A. Calicivirus
- B. Ricin toxicity
- C. Vitamin D toxicity
- D. Francisella tularensis*
- E. Leporid herpesvirus

67. “Brain-heart syndrome” is often observed following acute brain injury and is associated with:

- A. Subvalvular jet lesions
- B. Subendocardial necrosis
- C. Necrotizing vasculitis of coronary vessels
- D. Atrial thrombosis

68. All of the following are associated with chronic cadmium toxicity (Itai-Itai disease) in ovariectomized monkeys except?

- A. Normocytic normochromic anemia
- B. Hyperphosphatemia
- C. Decreased serum levels of vitamin D3
- D. Renal tubular atrophy with fibrosis
- E. Osteomalacic osteopenia

69. Which of the following is the only known lungworm of cattle?

- A. *Neostongylus linearis*
- B. *Cystocaulus ocreatus*
- C. *Dictyocaulus arnfieldi*
- D. *Dictyocaulus viviparus*

70. Which is the most common cause of otitis media in rats?

- *Streptococcus pneumoniae*
- *Pasteurella pneumotropica*
- *Corynebacterium kutscheri*
- *Mycoplasma pulmonis*