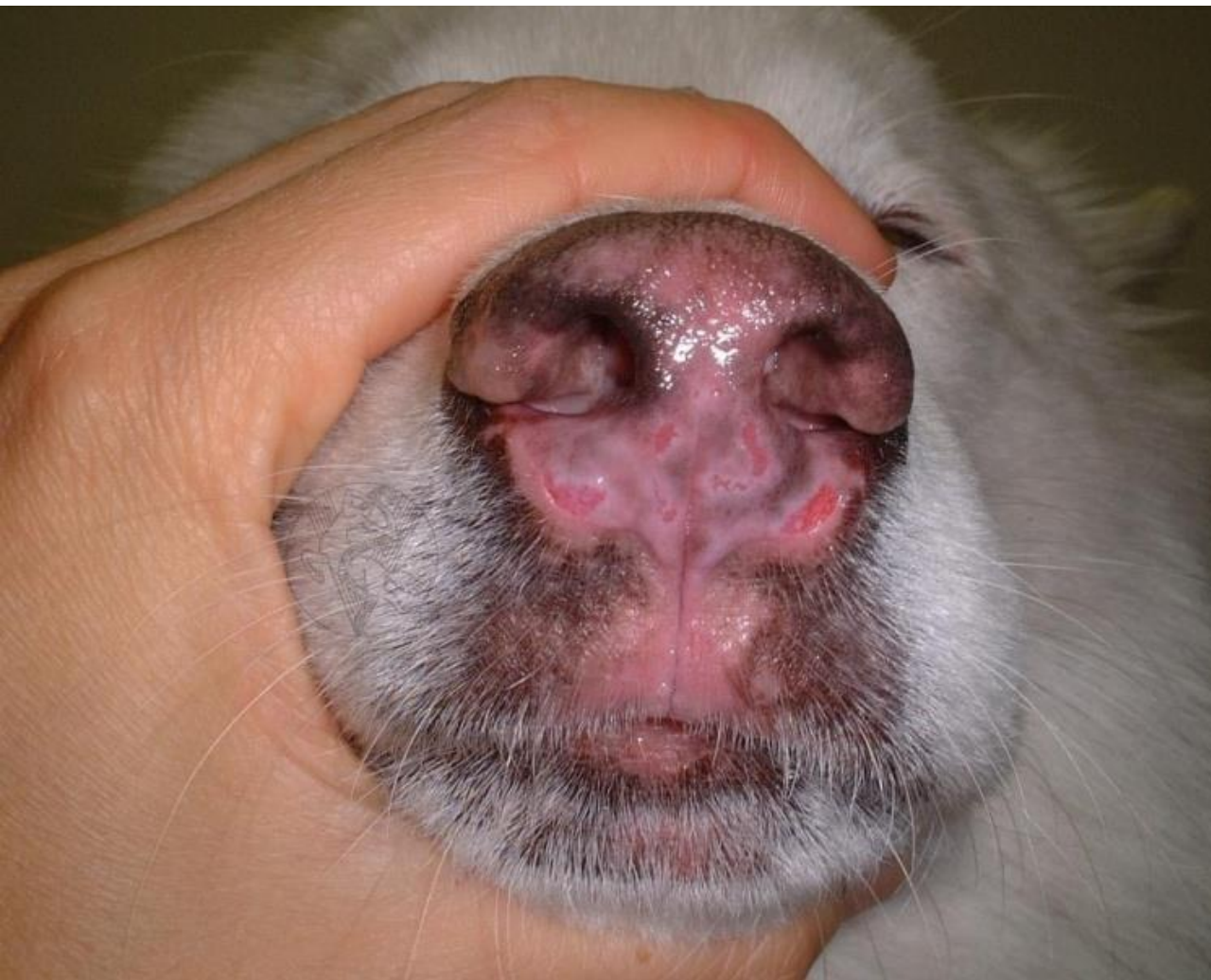




1. What is the most likely cause of this lesion?

- a. *Chlamydia trachomatis*
- b. *Chlamydia pecorum*
- c. *Chlamydia abortus*
- d. *Chlamydia psittaci*



2. Which of the following is true about this condition this condition?
- a. The disease is considered to be the result of MHC II antigen diversity.
 - b. Skin lesions generally precede ocular lesions.
 - c. Vacuolar change of the basal layer with apoptosis is commonly seen.
 - d. Leukotrichia is a common finding in areas of leukoderma.



3. Name another lesion that might be found in this individual?

- a. Corneal opacities
- b. Hemorrhage in intestinal lymphoid tissue
- c. Ganglioneuritis of the intestinal plexi
- d. Fibrinous epicarditis



4. Tissue from horse. Most likely diagnosis?
- a. Pancreatic carcinoma
 - b. Mammary carcinoma
 - c. Gastric squamous cell carcinoma
 - d. Melanoma



5. Tissue from an ox. What is the most likely cause of this lesion?

- a. Bovine herpesvirus-1
- b. Bovine herpesvirus-2
- c. Bovine herpesvirus-4
- d. Bovine herpesvirus-5



6. What of the following is true.?

- a. This virus infects squamous, but not mucosal epithelium.
- b. Non-ruminants may be infected.
- c. Vegetative endothelial growth factor is an important virulence factor of this virus.
- d. Mortality may exceed 25% in infected herds.



7. Tissue from an ox. What is the most likely cause of this lesion?

- a. *Fusobacterium necrophorum*
- b. *Aspergillus fumigatus*
- c. *Listeria monocytogenes*
- d. *Salmonella typhimurium*



8. Tissue from a dog. What is the most likely diagnosis?

- a. *Mycobacterium avium* infection
- b. Lymphangiectasia
- c. Boxer colitis
- d. *Lawsonia intracellulare* infection



9. Tissue from a horse. Which of the following has been associated with this parasite?

- a. Perforation and peritonitis
- b. Cecocecal intussusception (cecal inversion)
- c. Intestinal adenocarcinoma
- d. Nothing, it has no associated pathology.



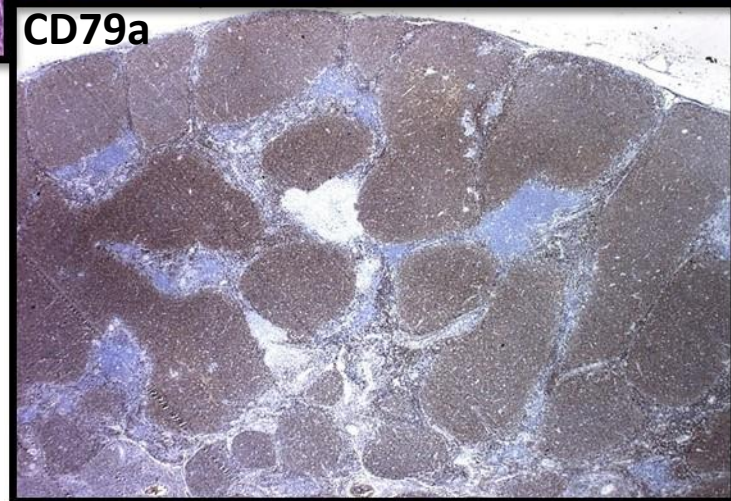
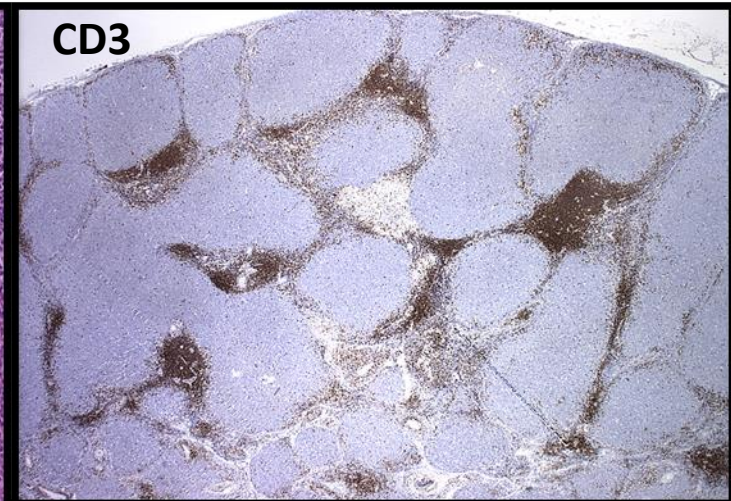
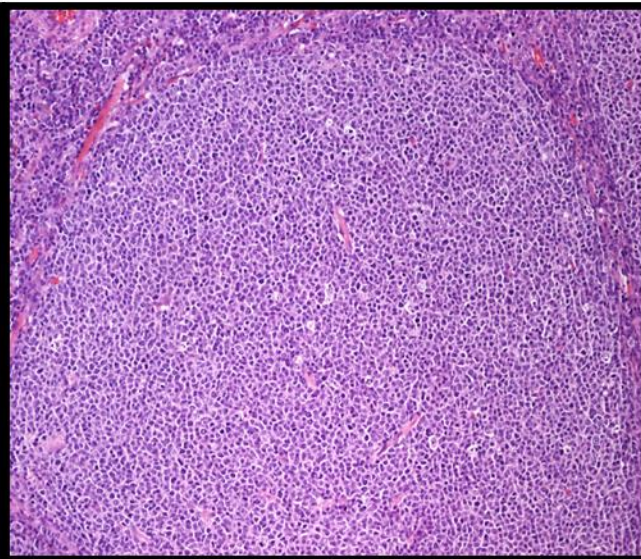
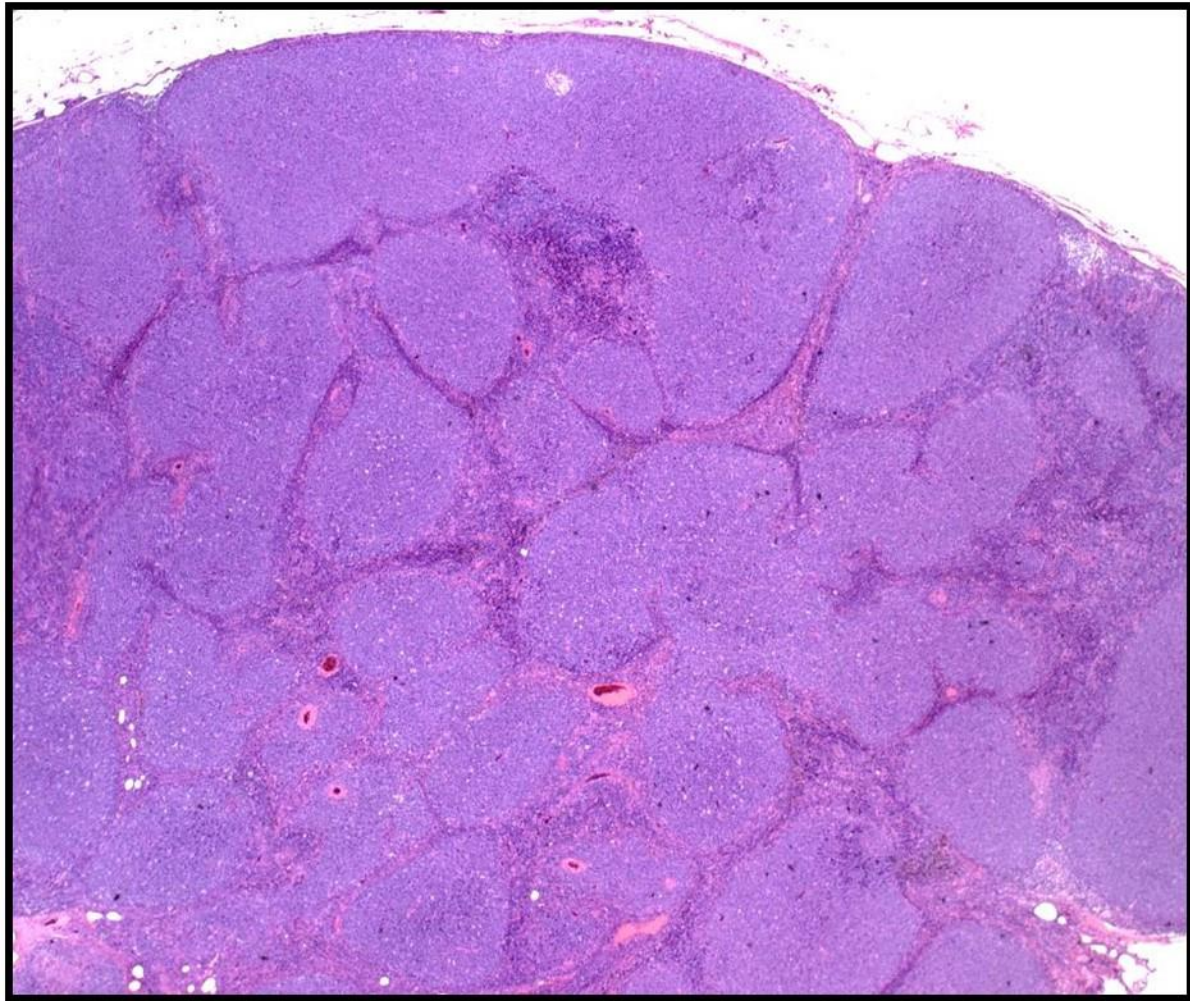
10. Tissue from a mouse. What is the diagnosis?

- a. Epicardial mineralization
- b. Polyarteritis nodosa
- c. Lymphoma
- d. Atherosclerosis



11. Tissue from a trout. Name the agent?

- a. *Aeromonas salmonicida*
- b. *Edwardsiella ictaluri*
- c. *Yersinia ruckeri*
- d. *Edwardsiella tarda*



12. Tissue from a dog. What is the most likely diagnosis?

- A. Marginal zone lymphoma
- B. Follicular lymphoma
- C. Diffuse large B cell lymphoma
- D. Follicular hyperplasia



13. Tissue from a chicken. In a recent review, which of the following bacilli was not considered a potential cause?

- a. *Clostridium perfringens* type A
- b. *Clostridium sordelli*
- c. *Clostridium novyi*
- d. *Clostridium septicum*



14. Tissue from a rabbit. Name an associated finding?

- a. Lymphosarcoma
- b. Thymoma
- c. Meningioma
- d. Hemangiosarcoma

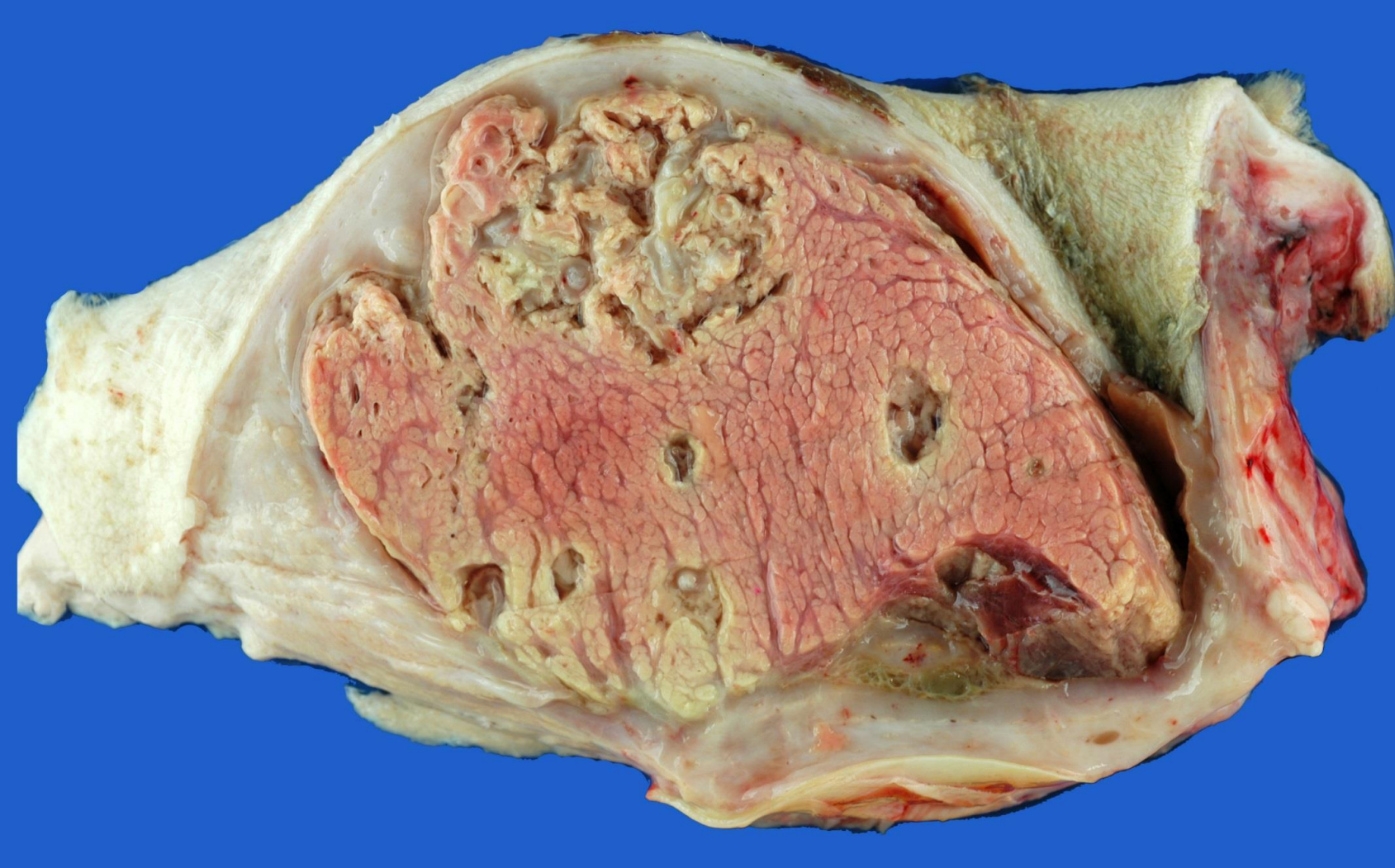


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15. Tissue from a cow. Name the condition?
- a. Hippomanes
 - b. Adventitial placentation
 - c. Adenomatous hyperplasia of the allantoic
 - d. Amniotic plaques

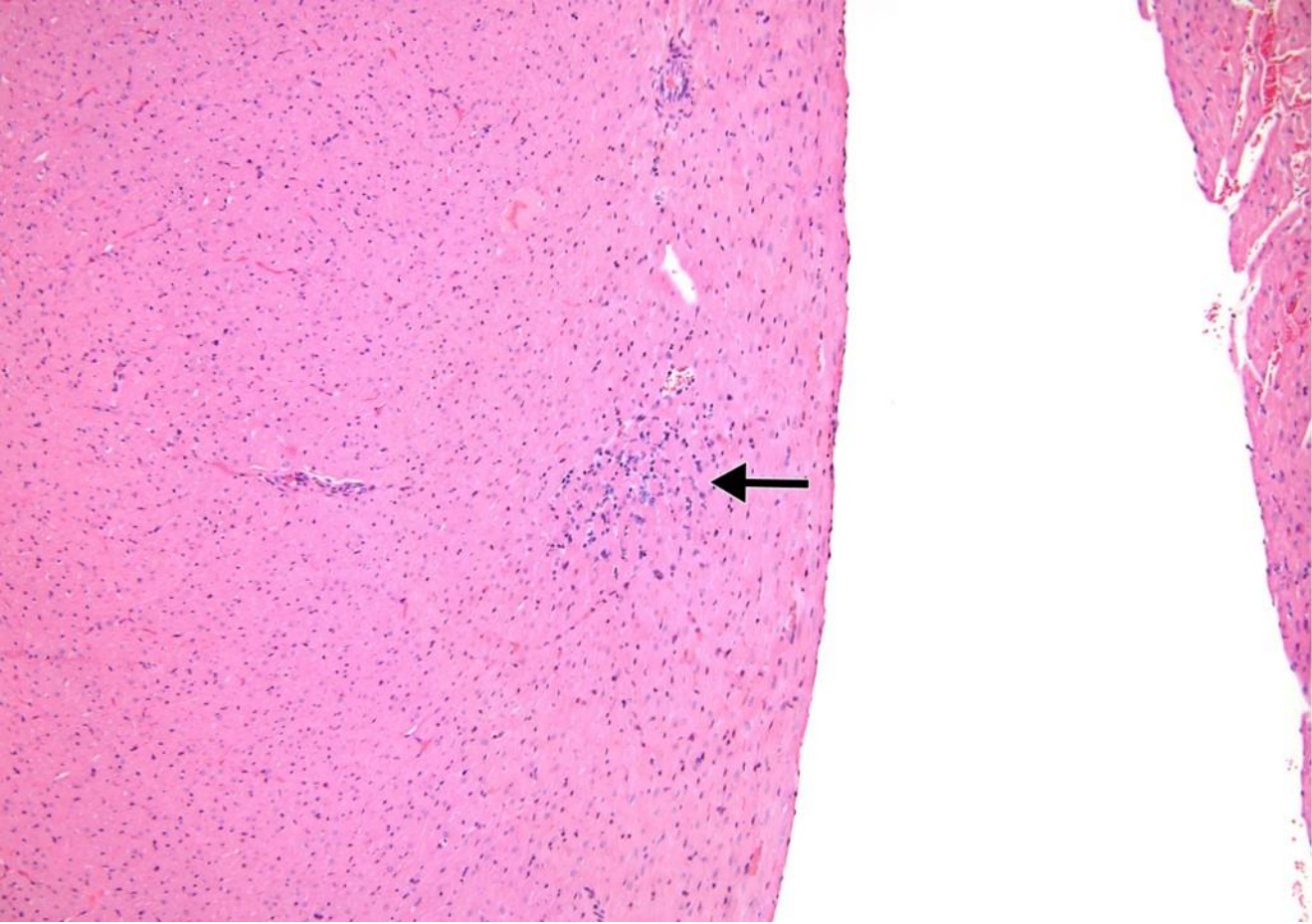


16. Tissue from a horse. What is the most likely cause of this lesion?
- a. Cleavage of the articular cartilage and pressure infusion of joint fluid into the bone
 - b. Shear forces between subchondral bone and articular cartilage
 - c. Ischemia due to a failure of blood supply to the epiphyseal growth cartilage
 - d. Inappropriate differentiation of chondrocytes in the epiphyseal growth cartilage



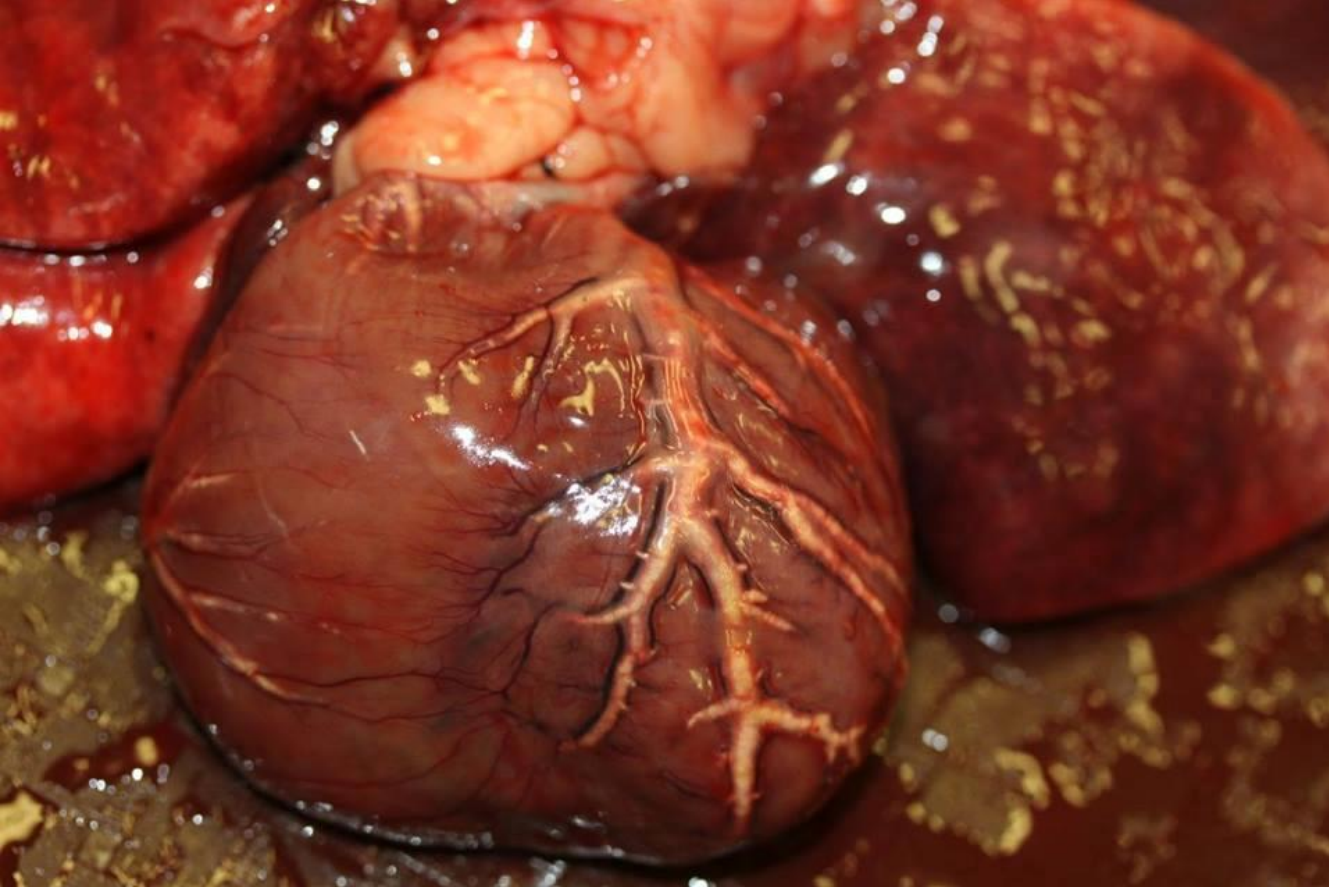
17. Tissue from a sheep. Name the most likely cause.

- a. Ovine lentivirus
- b. *E. coli*
- c. *Staphylococcus aureus*
- d. *Mycoplasma agalactiae*



18. This lesion from a female Fischer 344 rat is most consistent with which of the following

1. Mononuclear cell leukemia
2. Progressive rodent cardiomyopathy
3. Periarteritis nodosa
4. Coxsackie virus infection



19. Tissue from a dog. What of the following is true?

- a. Lesions are most commonly seen in large elastic arteries than small muscular arteries.
- b. Like man, lipid is primarily deposited in the tunica intima.
- c. The lesions may be seen in hypothyroid animals.
- d. Among domestic species, atherosclerosis is most commonly seen in the dog.



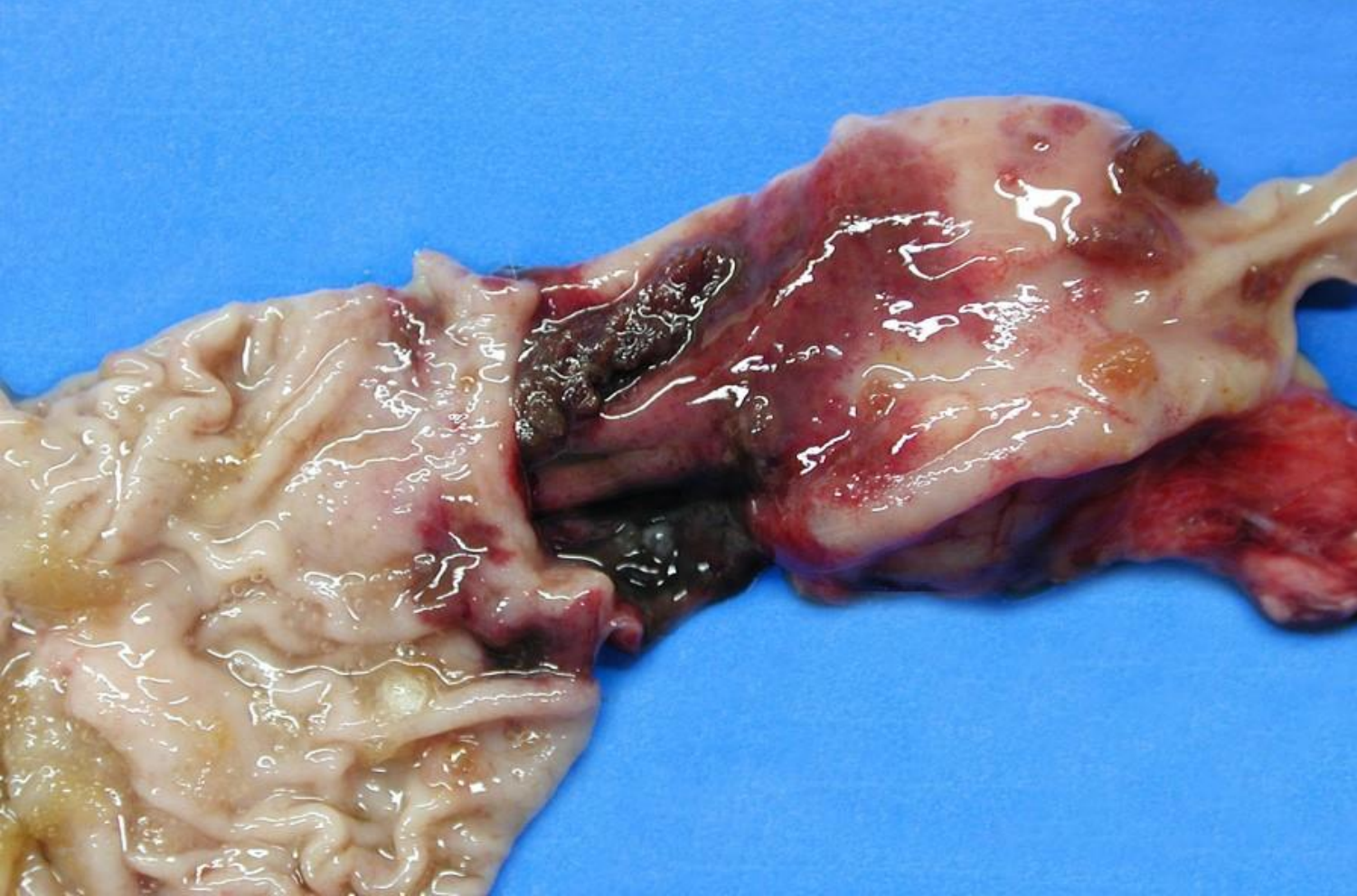
20. Tissue from a horse. What of the following is associated with umbilical torsion in the equine?

- a. Compression of the urachus
- b. 3 or more twists of the umbilical cord
- c. An excessively long umbilical cord
- d. All of the above



21. In neonatal piglets, this lesion results from infection by?

- a. *Clostridium perfringens* type C
- b. Shiga toxin-producing *E. coli*
- c. Enteropathogenic *E. coli*
- d. *Clostridium difficile*

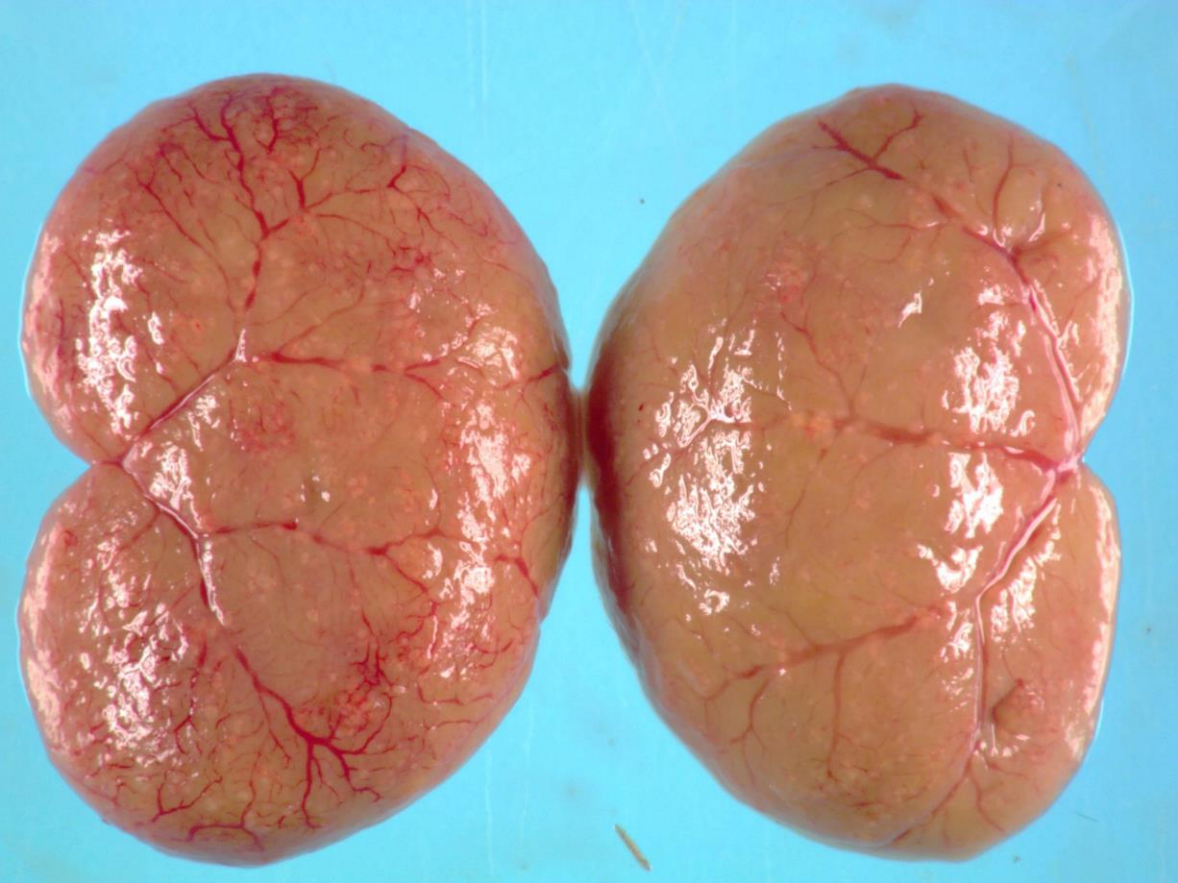


22. Tissue from a rhesus macaque. What of the following lesions may also be seen in this animal?
- a. Gingival ulceration
 - b. Necrotizing and proliferative dermatitis on the face and hands
 - c. Lymphoid necrosis and deposition of fibrin within splenic white pulp
 - d. Abscesses throughout the body



23. Tissue from an ox. What is the most likely cause of this lesion?

- a. *Sarcocystis* sp.
- b. *Vicia villosa*
- c. *Cysticercus bovis*
- d. *Histophilus somni*



24. The key events in the pathogenesis of this disease are the results of activation of which of the following?

- a. Monocytes and macrophages
- b. T-cells
- c. B-cells
- d. NK cells



25. Which of the following genetic defects is associated with this condition?

- a. Fibroblast growth factor-4
- b. SLC2A9
- c. ECA-10
- d. Endothelin-3

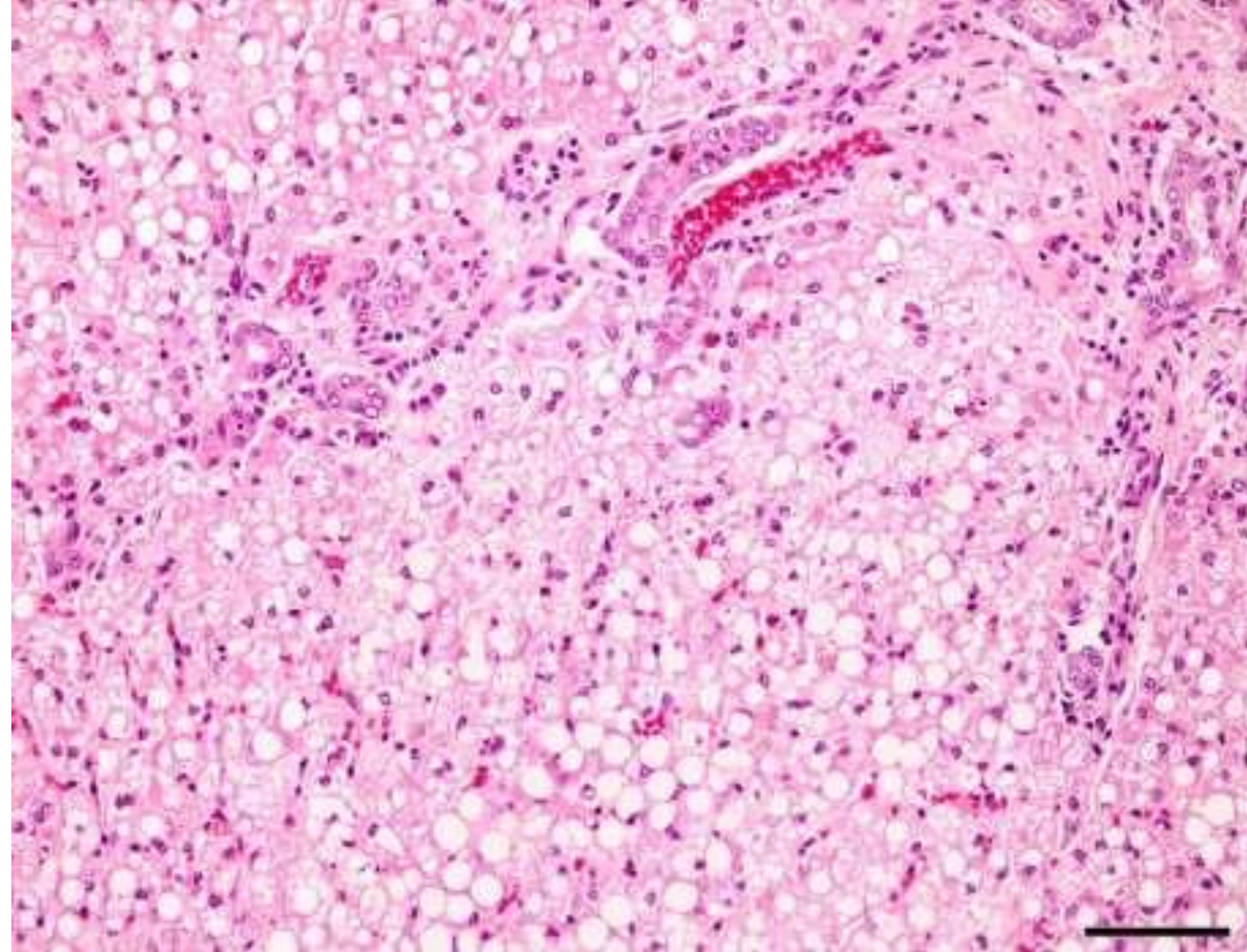


26. Tissue from an ox. Which is the most likely cause?

- a. *Corynebacterium pseudotuberculosis*
- b. *Vicia villosa*
- c. *Mycobacterium bovis*
- d. *Mycobacterium paratuberculosis*

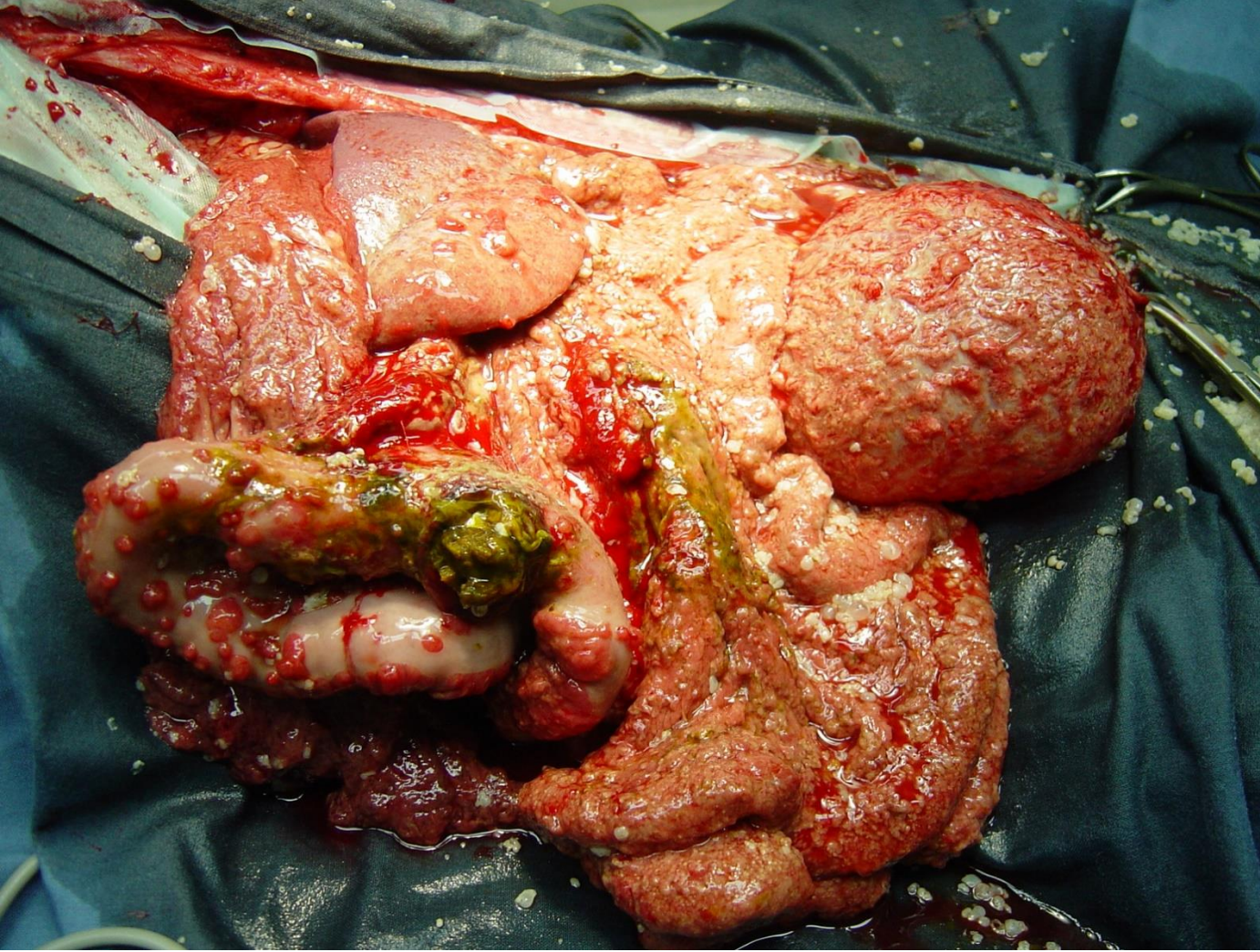


27. Tissue from a rhesus macaque. This condition has been associated with which of the following?
- a. Advancing age
 - b. Multiple myeloma
 - c. Generalized inflammation
 - d. All of the above



28. Tissue from a dog. Which is the most likely cause?

- a. *Amanita*
- b. Aflatoxin
- c. Xylitol
- d. Depo-medrol

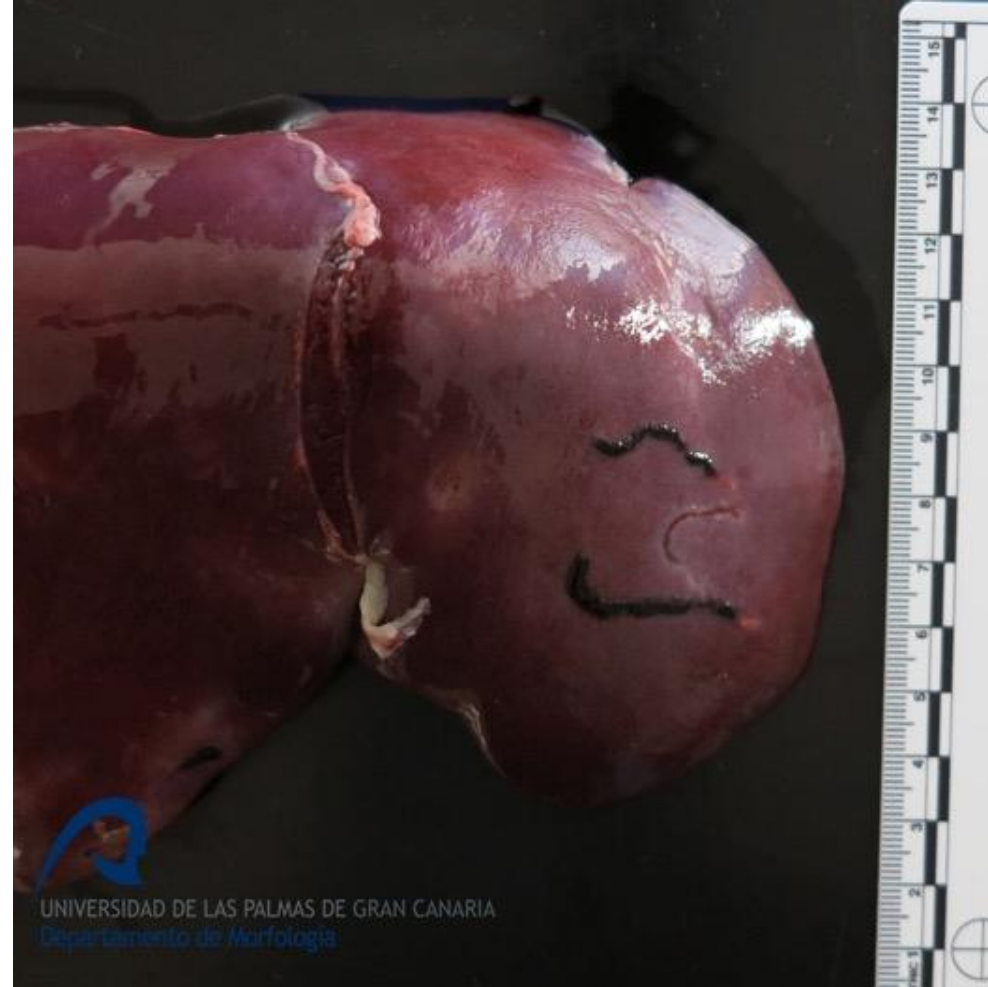


29. Tissue from a dog. Name the cause?
- a. *Diphyllobothrium* sp.
 - b. *Mesocestoides* sp.
 - c. *Spirometra* sp.
 - d. *Echinococcus multilocularis*



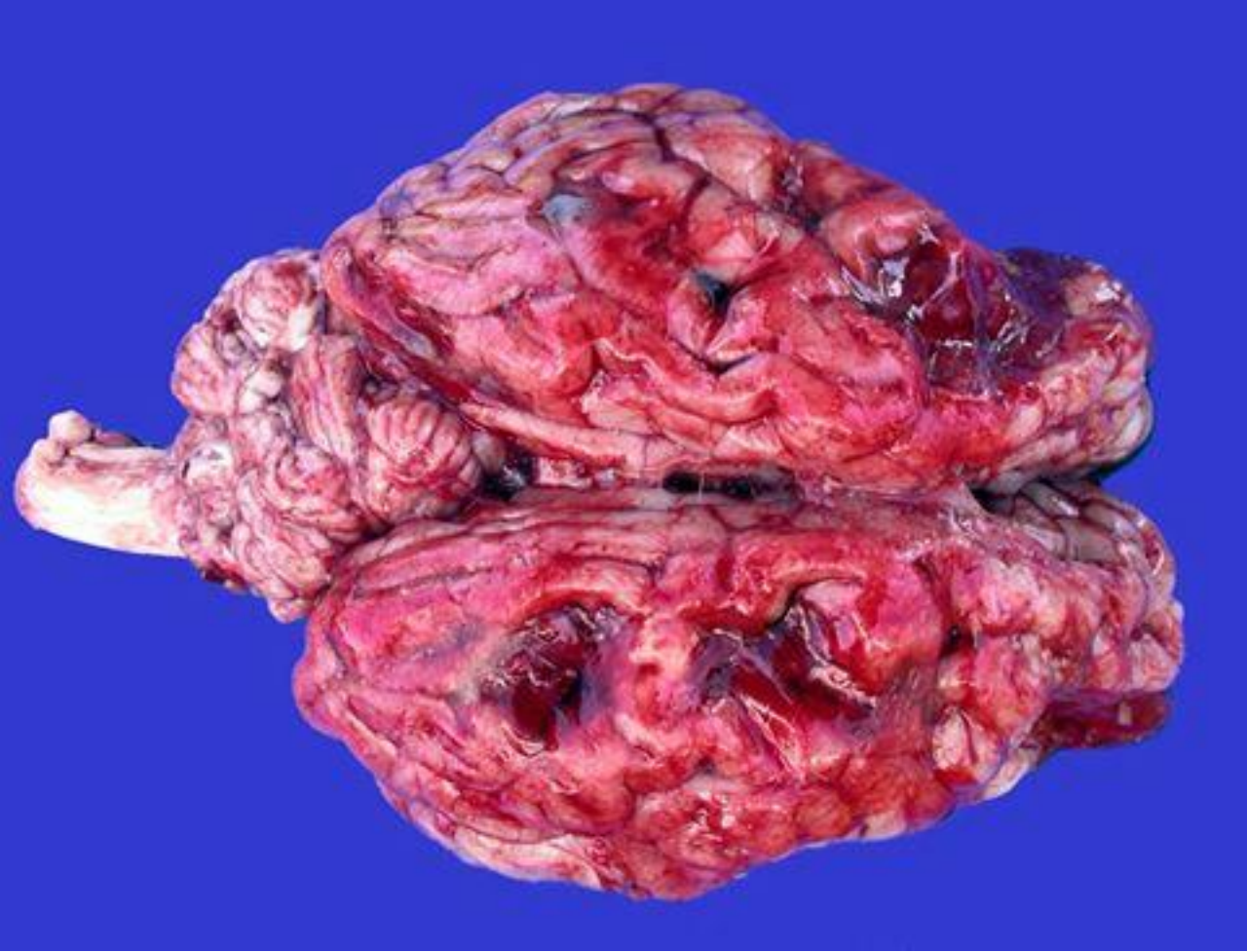
30. Tissue from a horse. What is the most likely cause of this lesion?

- a. Cyathostome infection
- b. *Salmonella typhimurium*
- c. *Neorickettsia risticii*
- d. Banamine toxicosis



31. Tissue from a sheep. What is the most likely cause of this lesion?

- a. *Fascioloides magna*
- b. *Fasciola hepatica*
- c. *Cysticercus tenuicollis*
- d. *Dicrocoelium dendriticum*

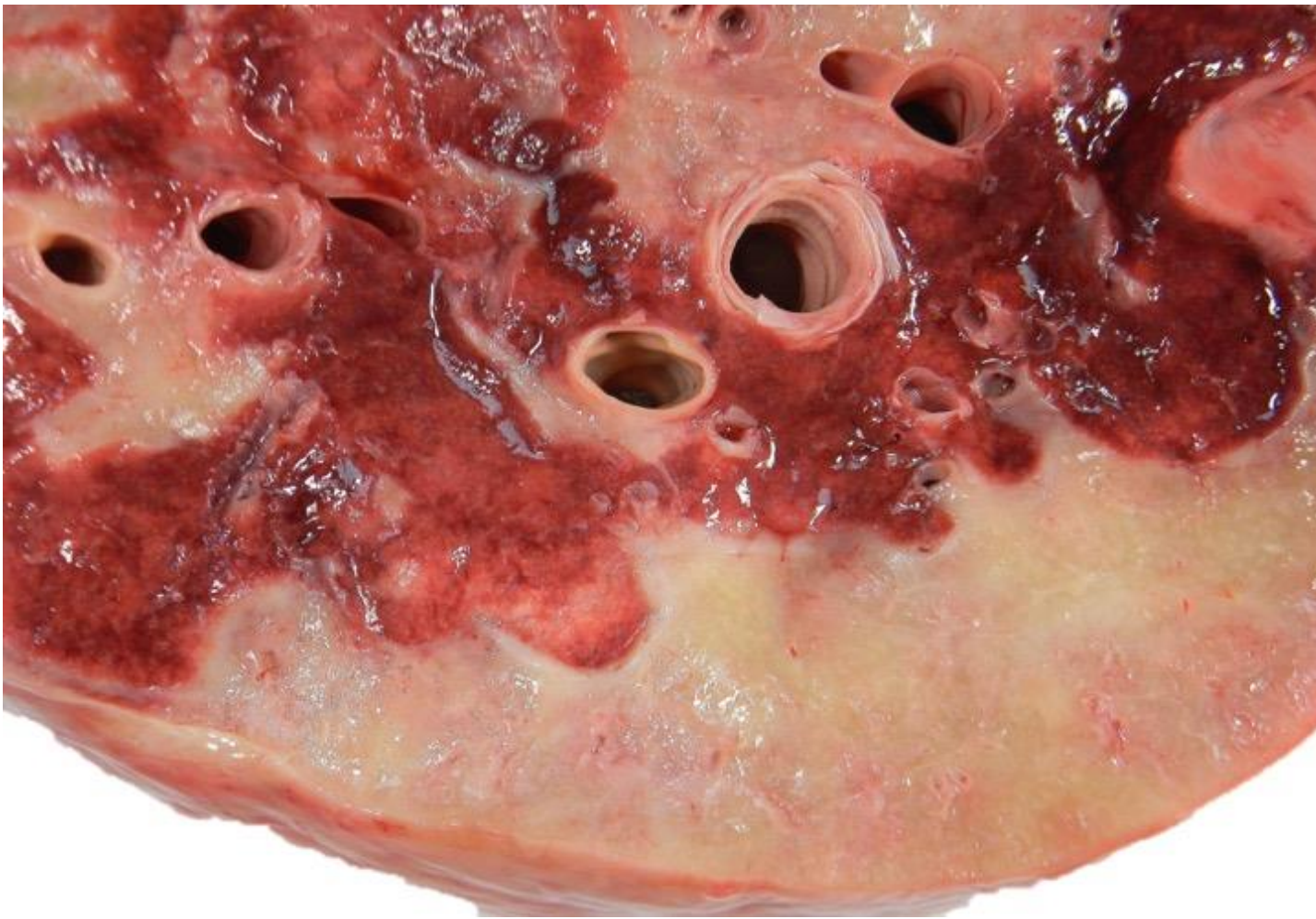


32. Tissue from an ox. What is the most likely cause of this lesion?

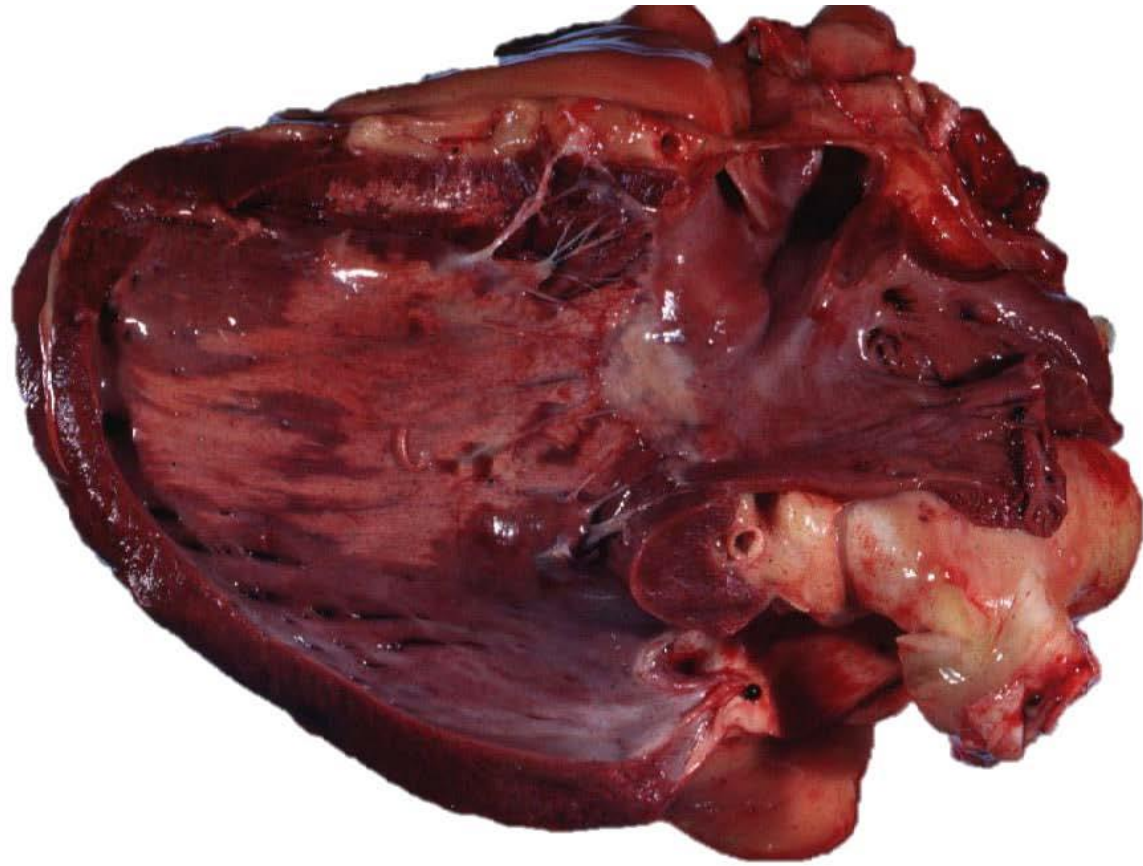
- a. Bovine herpesvirus-5
- b. Excessive dietary sulfur
- c. *Histophilus somni*
- d. *Aspergillus fumigatus*



33. Tissue from a dog. Cilia-associated bacteria were identified on H&E. What is the most likely cause of this lesion?
- a. *Bordetella bronchiseptica*
 - b. *Mycoplasma cynotis*
 - c. CAR bacillus
 - d. *Proteus mirabilis*



34. Tissue from a horse. What is the most likely cause of this lesion?
- a. An alpha-herpesvirus
 - b. A beta-herpesvirus
 - c. A gamma-herpesvirus
 - d. A retrovirus



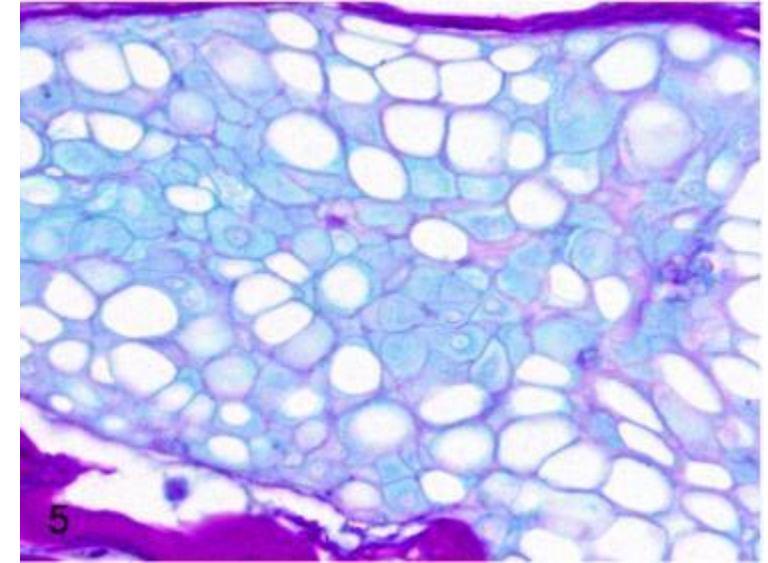
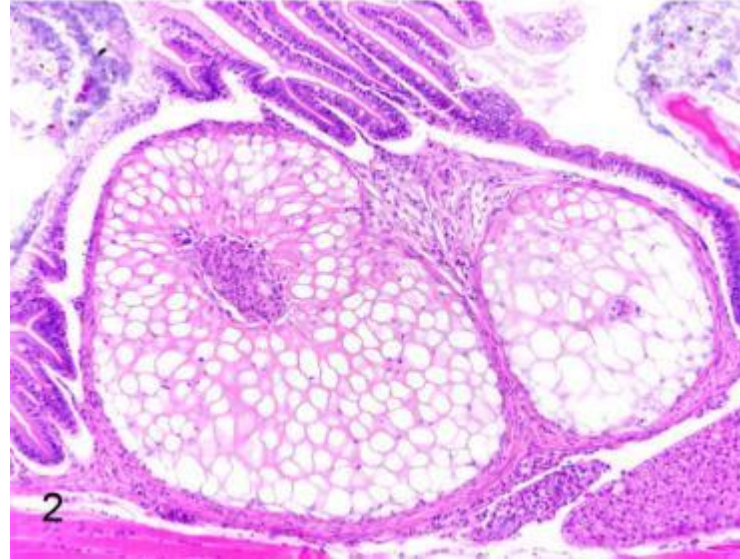
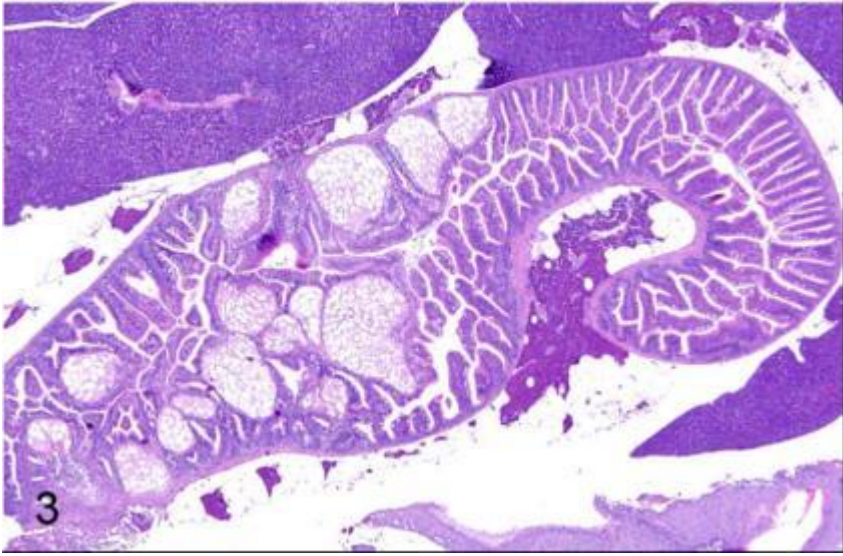
35. Tissue from an adult horse. Name the most likely cause?

- a. Cantharidin toxicity
- b. Equine herpesvirus-1
- c. Equine aphthovirus
- d. Halicephalobus gingivalis



36. Tissue from a chimp. What is the most likely cause of this lesion?

- a. Poxvirus
- b. Papillomavirus
- c. Polyomavirus
- d. Herpesvirus



37. Tissue from an aged zebrafish. What is the diagnosis?

- a. Liposarcoma
- b. Chordoma
- c. Chondroma
- d. Hibernoma

Alcian blue stain with
hyaluronidase digestion



38. Tissue from a chicken. Name the disease

- a) Avian metapneumovirus
- b) Avian Influenza
- c) Splenomegaly
- d) Newcastle Disease



39. The mouse strain most resistant to the disease is:?

- a. BALB/C
- b. CBA
- c. CD1
- d. B6



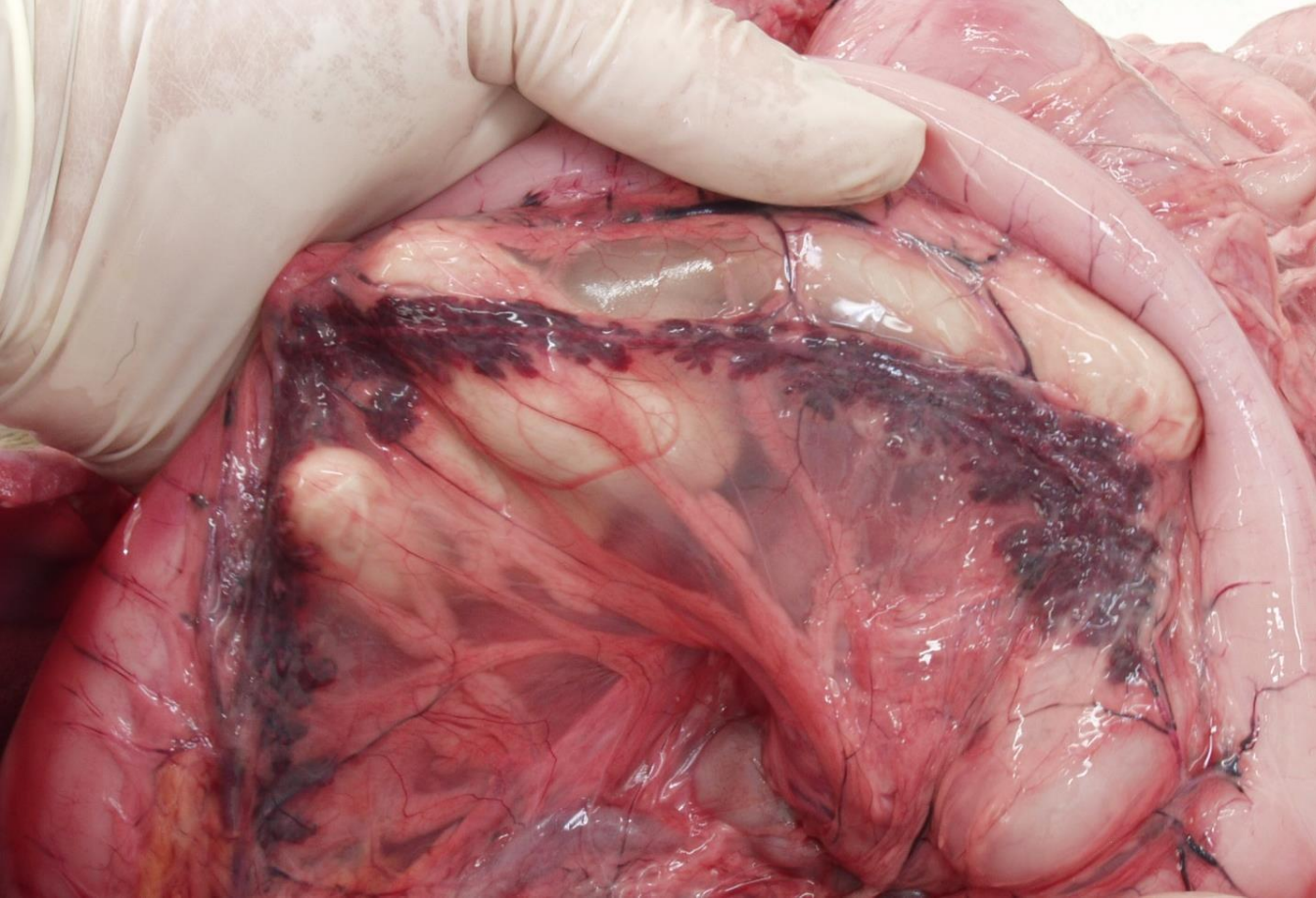
40. Tissue from a white-tailed deer. What is the cause of this lesion?

- a. Viral infection of the horn bud
- b. Mutation in p53
- c. Disruption in testosterone production
- d. Trauma



41. Tissue from a guinea pig. Name the most likely cause:

- a. *Yersinia pseudotuberculosis*
- b. *Streptococcus equi* var. *zooepidemicus*
- c. *Streptococcus pneumoniae*
- d. *Bordetella bronchiseptica*

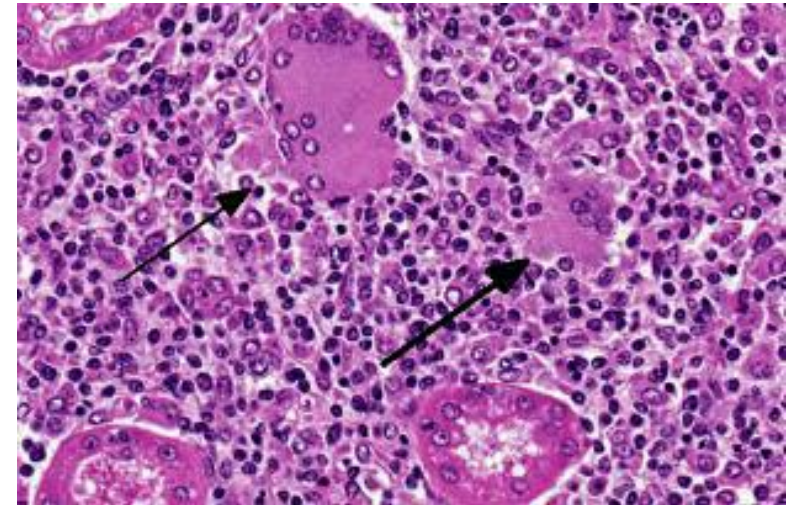


42. Tissue from a German Shepherd dog. What is the cause of this lesion?

- a. Incomplete development
- b. Blockage of the pancreatic duct
- c. Autoimmunity
- d. Zinc deficiency

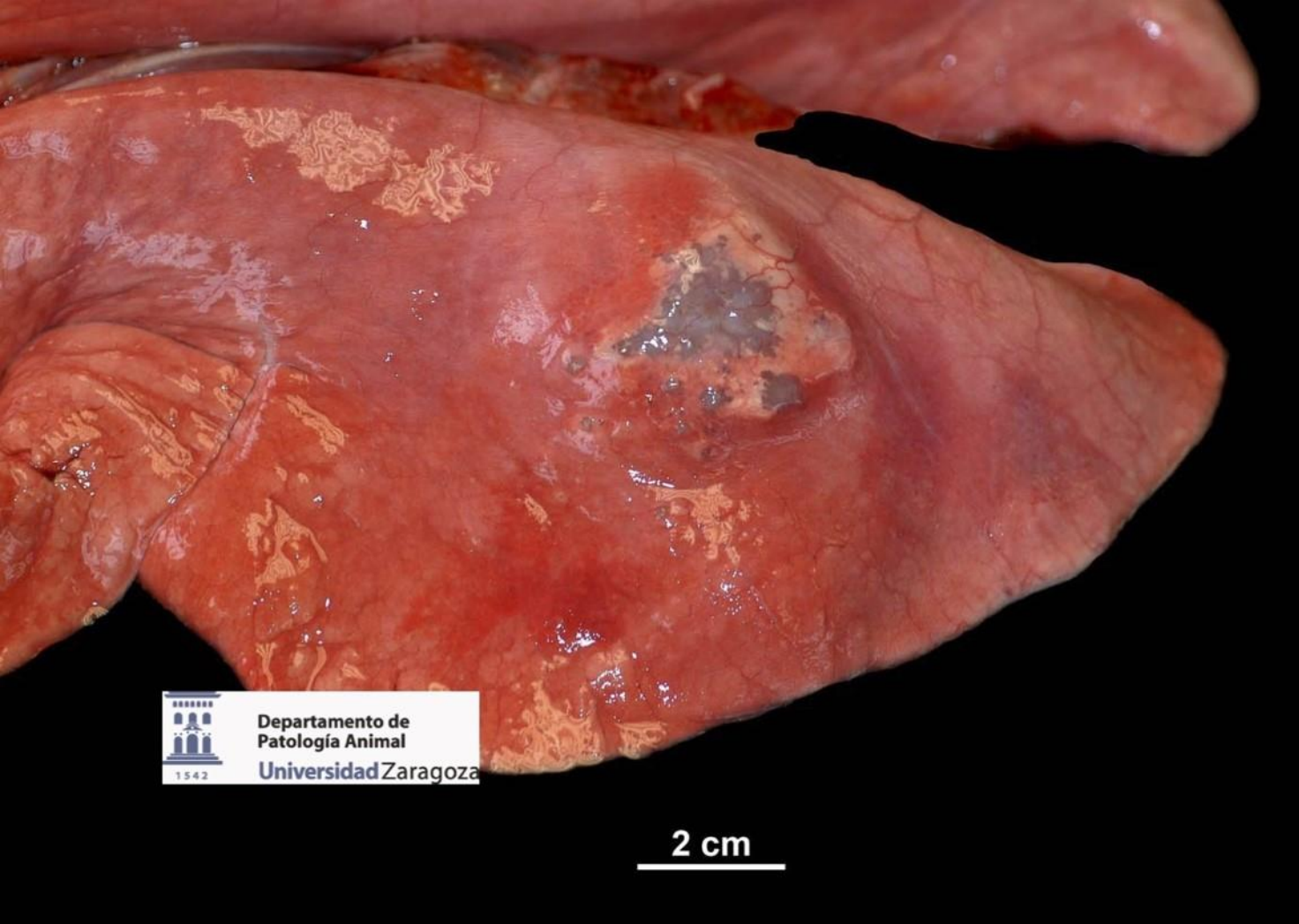


43. Tissue from a cat. Name the most likely outcome.
- a. Visceral metastasis, often to the liver.
 - b. Nothing. The cat's eye just looks weird.
 - c. Glaucoma
 - d. Metastasis to the local lymph node.



44. Tissue from an ox. Similar lesions are often seen in what other organ?

- a. Liver
- b. Lung
- c. Heart
- d. Brainstem

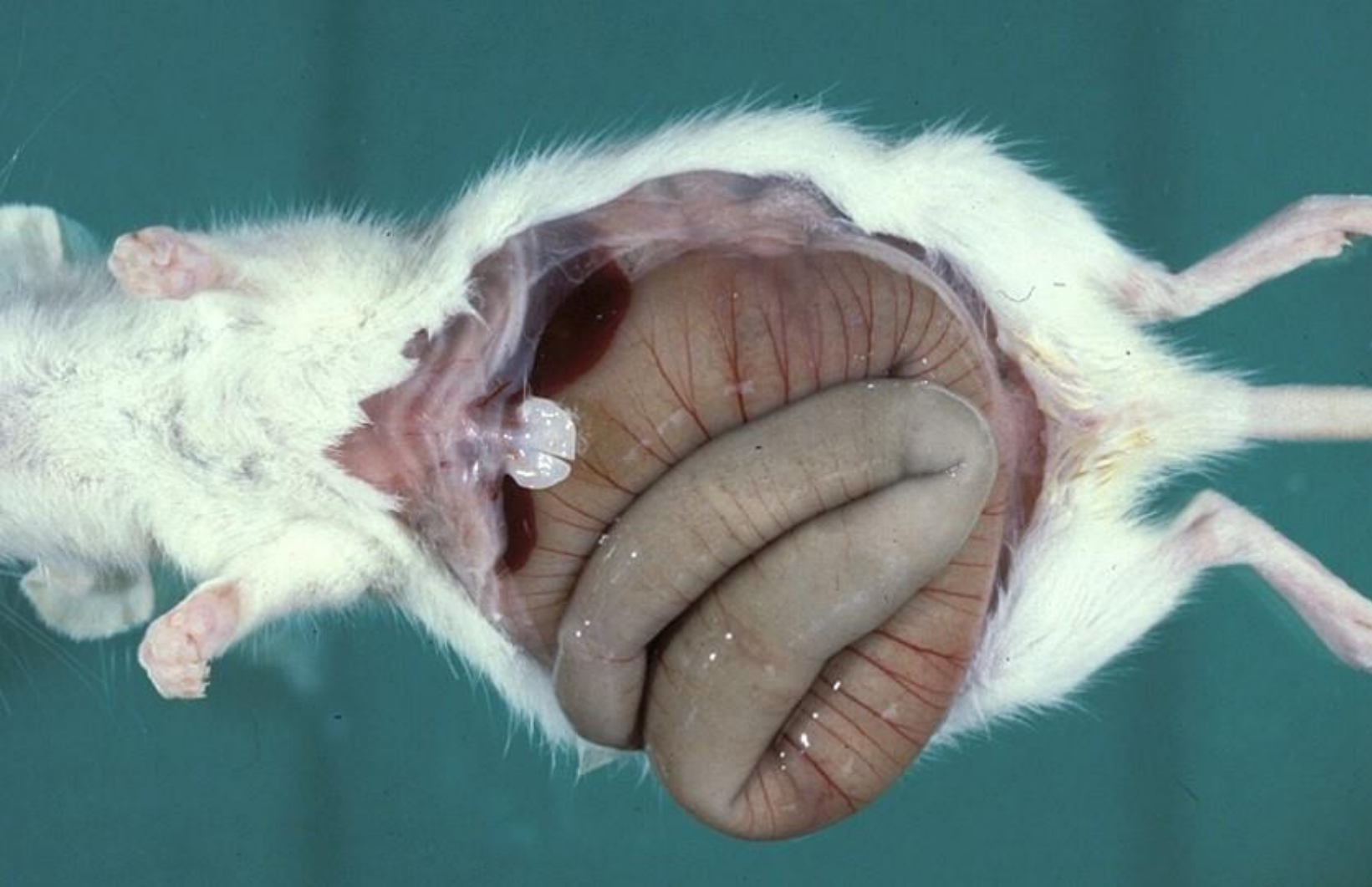


45. Tissue from a sheep. What is the most likely diagnosis?
- A. Pulmonary adenocarcinoma
 - B. Pulmonary muelleriasis
 - C. Ovine progressive pneumonia
 - D. Mycoplasmal pneumonia



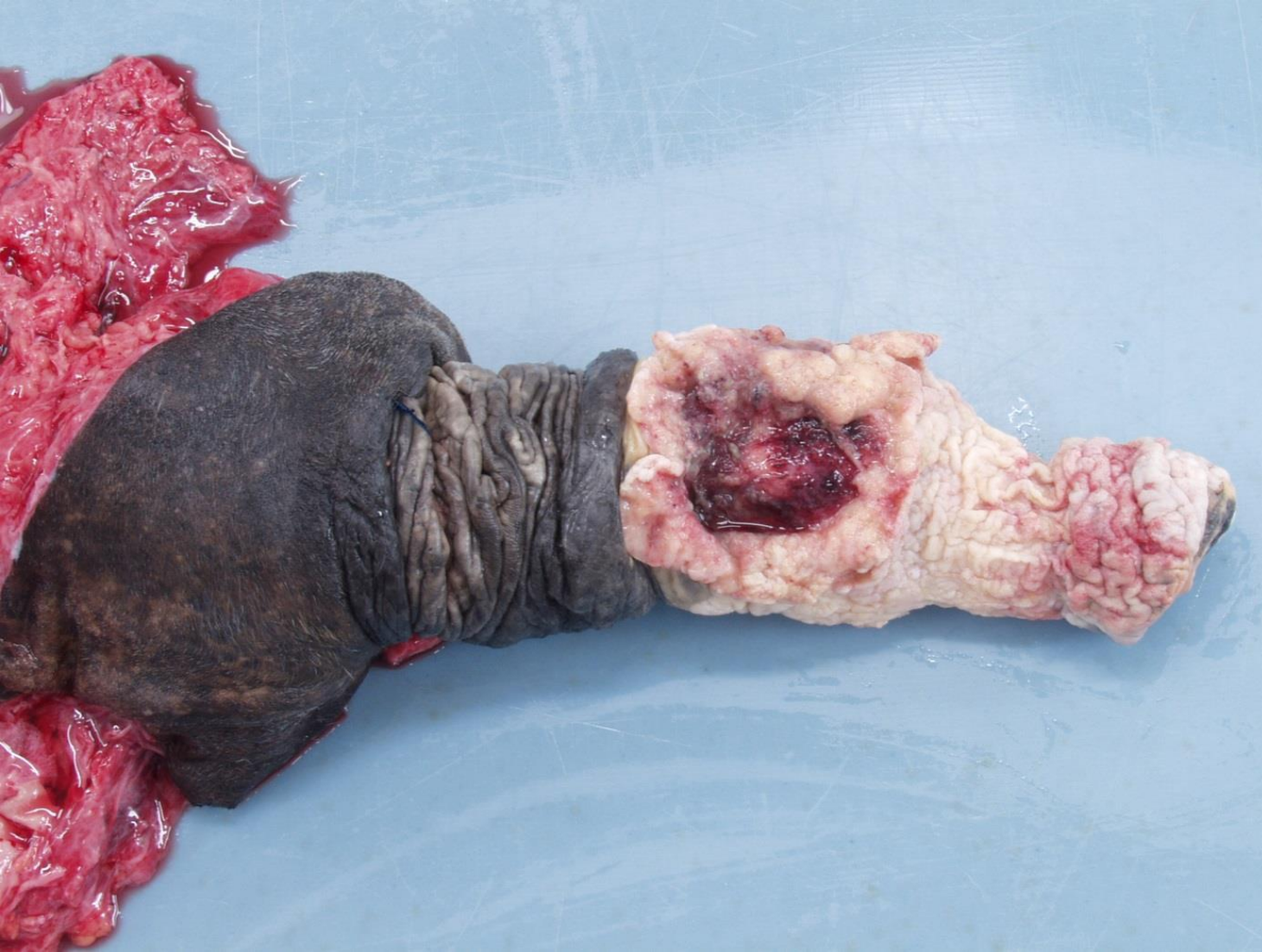
46. Tissue from a duck infected with H5N1 virus. What was the precipitating histologic lesion?

- a. Loss of corneal endothelium
- b. Anterior uveitis
- c. Rupture of Descemet's membrane
- d. Type III hypersensitivity to corneal stromal antigens.



47. Tissue from a rat. Cause?

- a. *Citrobacter rodentium*
- b. IP injection of chloral hydrate
- c. Atresia ani
- d. Rectal stricture



48. Tissue from a horse.. What was the precipitating viral infection?

- a. EcPV-1
- b. EcPV-2
- c. ECPV-3
- d. BPV-1



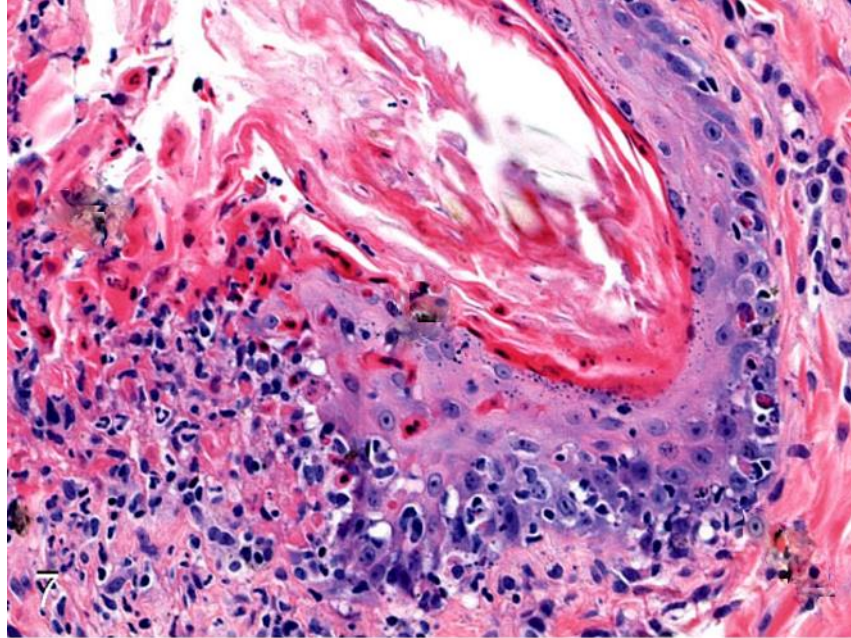
49. Tissue from a pig. What is the cause?

- a. Finely ground feed
- b. Endotoxemia
- c. Gastric volvulus
- d. Ingestion of T-2 toxin



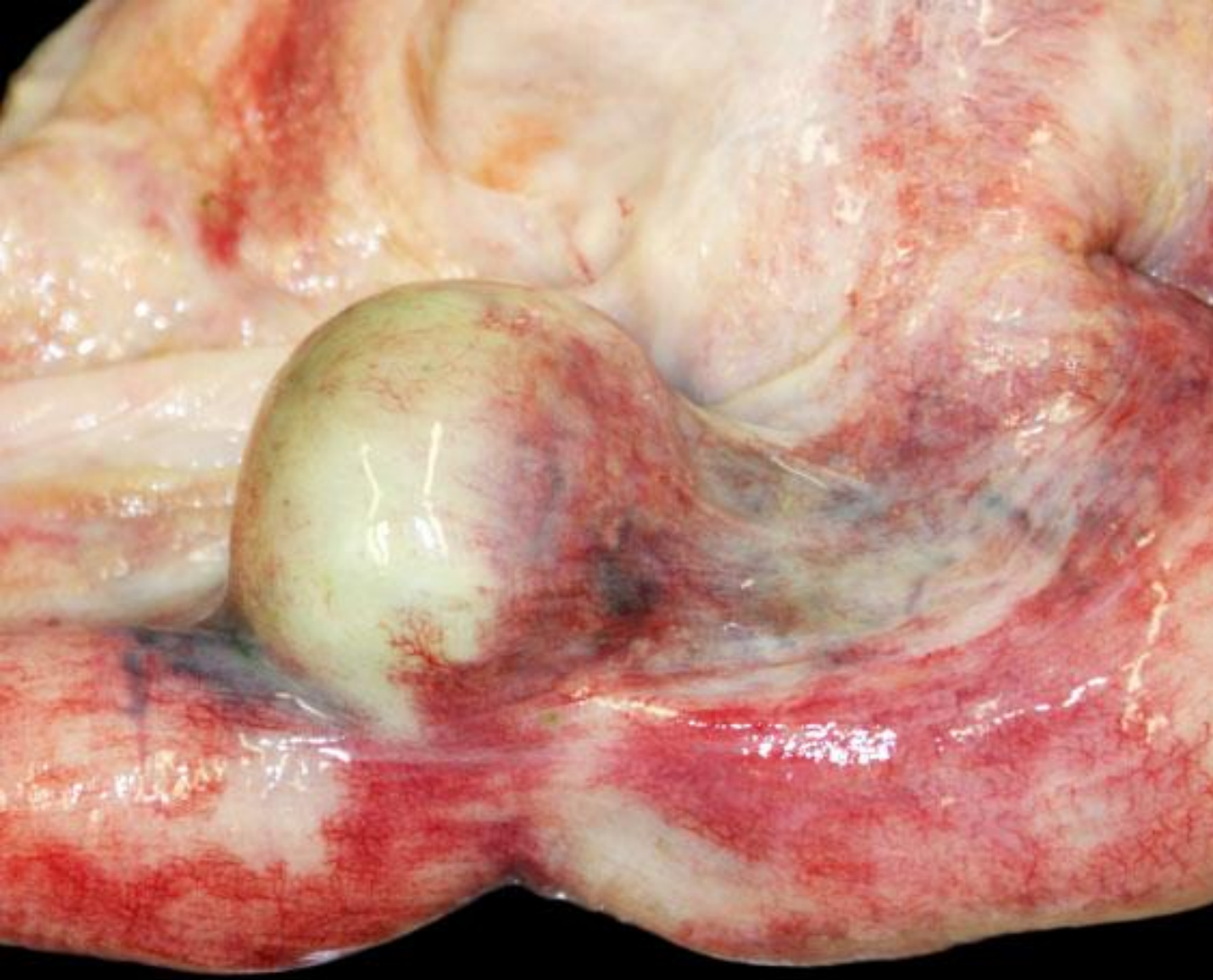
50. Tissue from a dog. What is the cell of origin for this tumor?

- a. Schwann cell
- b. T-cell
- c. B-cell
- d. Histiocyte



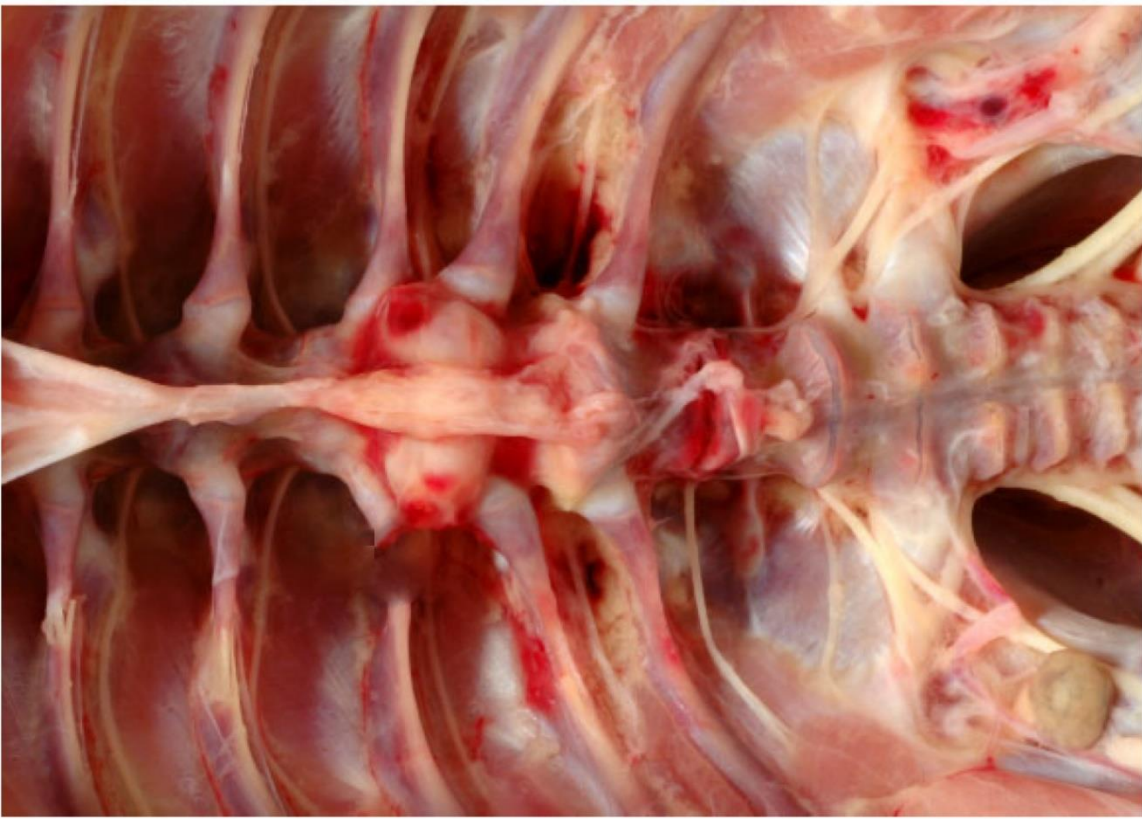
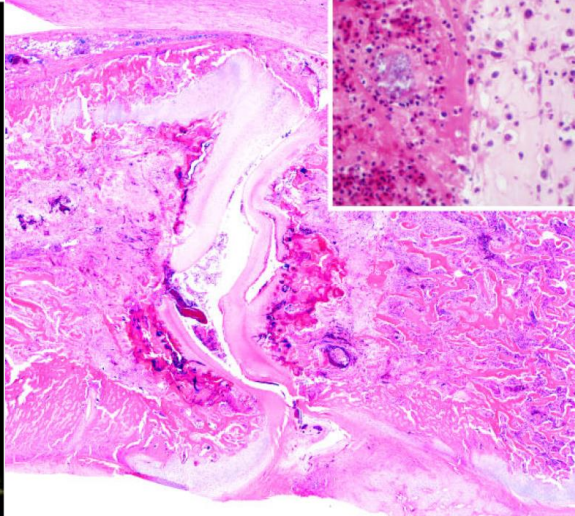
51. Tissue from a dog. What is the most likely diagnosis?

- A. Toxic epidermal necrolysis
- B. Pemphigus foliaceus
- C. Cutaneous lupus erythematosus
- D. Thermal burn
- E. Superficial necrolytic dermatitis



52. Tissue from a leatherback sea turtle. This lesion has which of the following characteristics?

- A. Mucosal proliferation/hyperplasia
- B. Commonly occurs in the ileum
- C. Common cause of death in this species
- D. Attenuation of muscular layer



53. Tissue from a broiler chicken: Which of the following is associated with the pathogenesis of this condition?

- A. Viral infection early in life
- B. Gram negative bacteremia
- C. Clinical enteritis
- D. Osteochondrosis dissecans



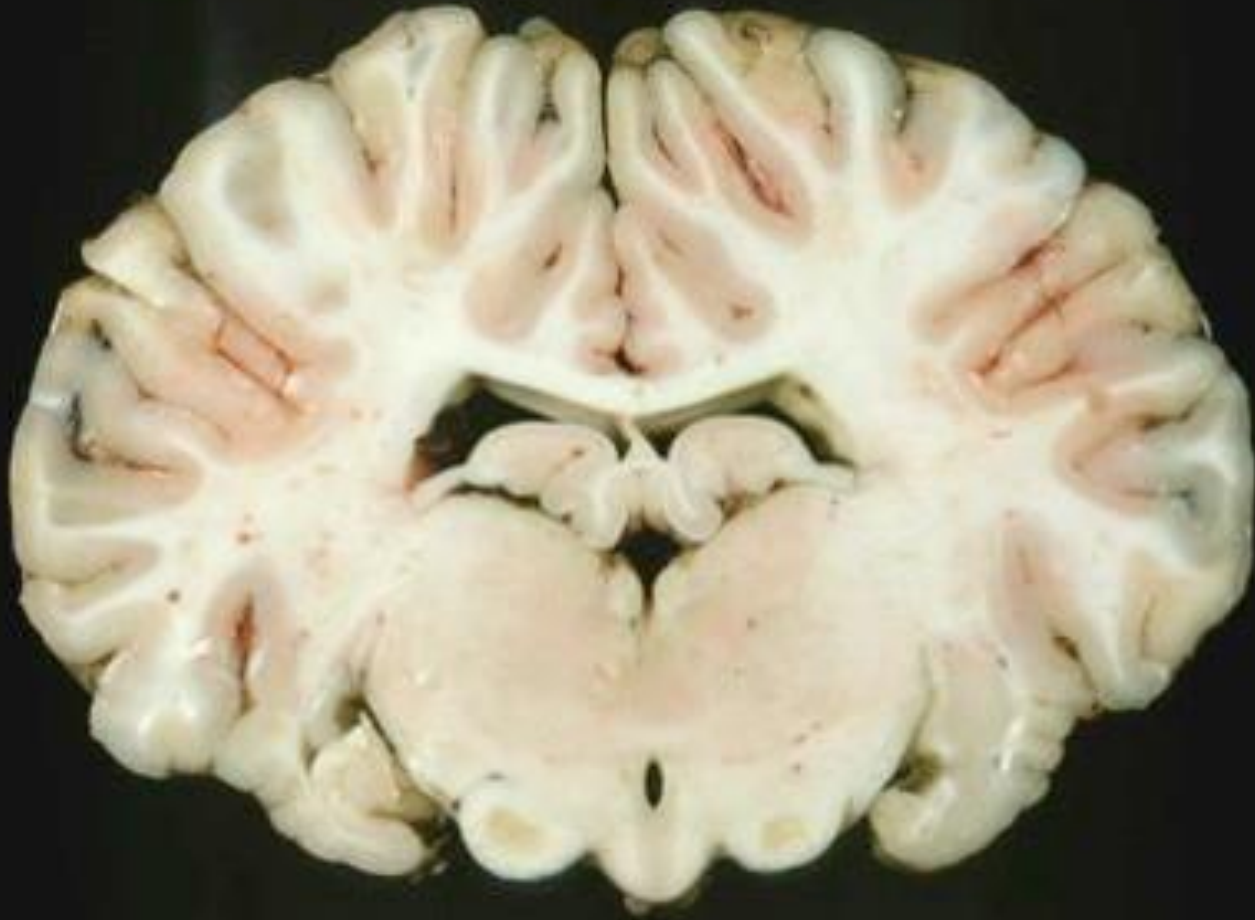
54. Tissue from a chicken. What is a possible cause?

- A. *Bordetella avium*
- B. *Avibacterium paragallinarum*
- C. *Mycoplasma gallisepticum*
- D. B & C



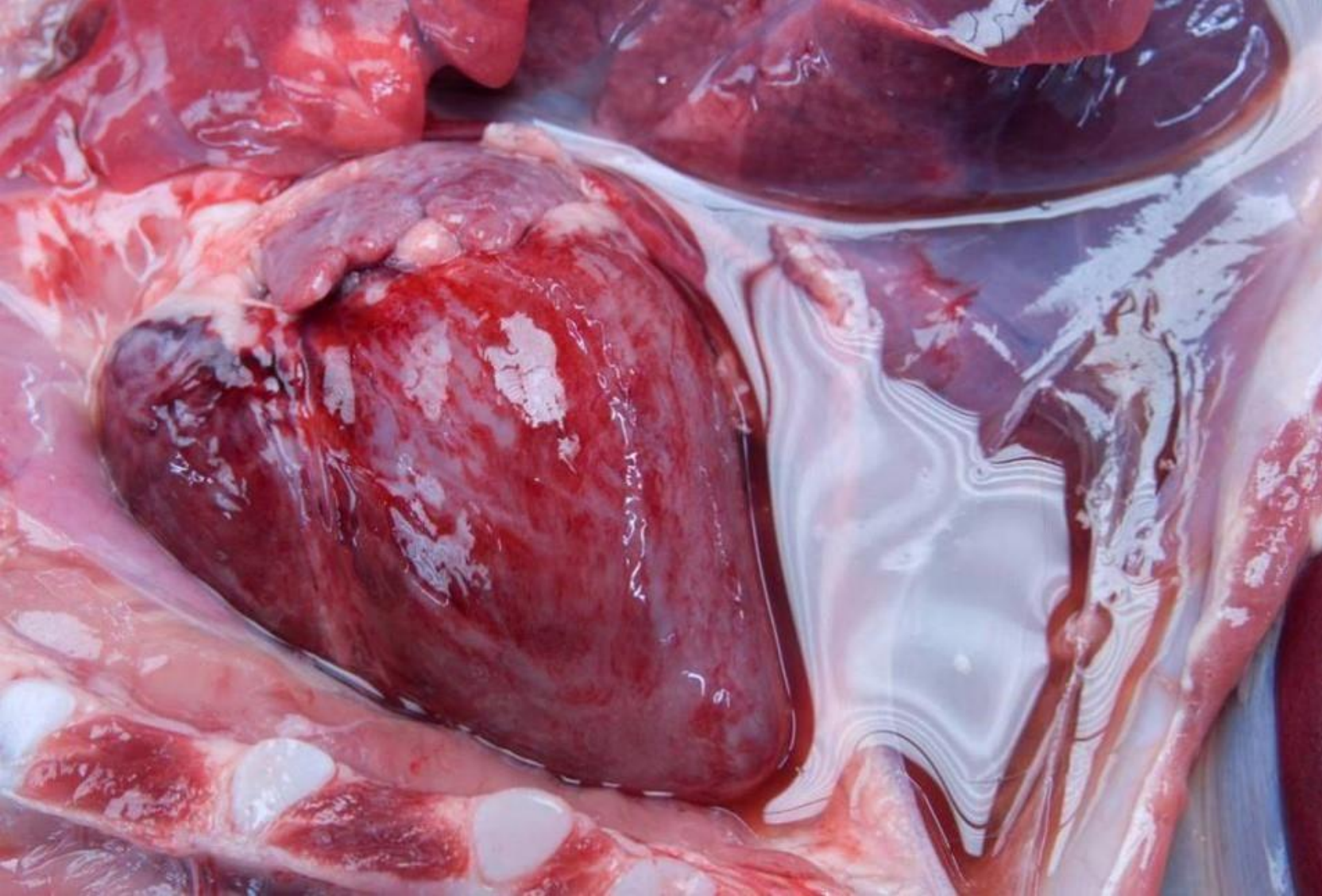
55. Tissue from a cat. What is an associated finding?

- A. Elevated TSH
- B. Hypophosphatemia
- C. Diffuse Chief cell hyperplasia
- D. Markedly distended follicles in affected areas



56. Tissue from a horse. What is the cause?

- A. Fumonisin B1
- B. Repin
- C. Methylmercury
- D. Swainsonine



57. Tissue from a pig. The cause of this lesion results in what lesion or condition in non human primates?

- A. Cataracts
- B. Hepatosis dietetica
- C. Hemolytic anemia
- D. Cerebellar hemorrhage



58. Tissue from an Ox. What is the cause?

- A. Capripox virus
- B. Bovine herpesvirus 2
- C. Dermatophilus congolensis
- D. Trichophyton mentagrophytes



59. Tissue from a rabbit. A cardinal feature of this condition includes which of the following?

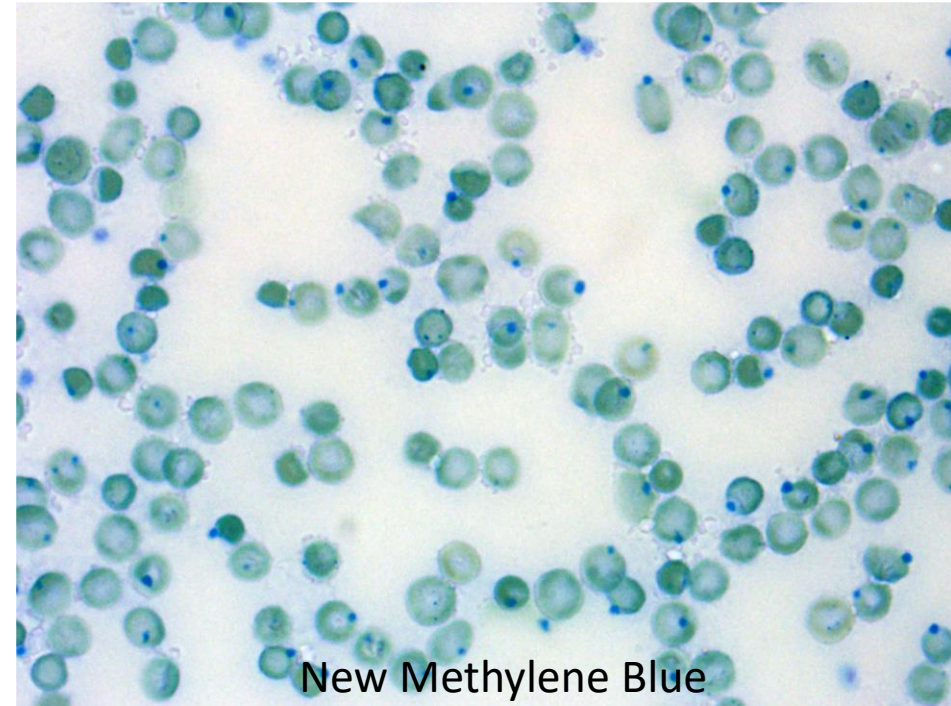
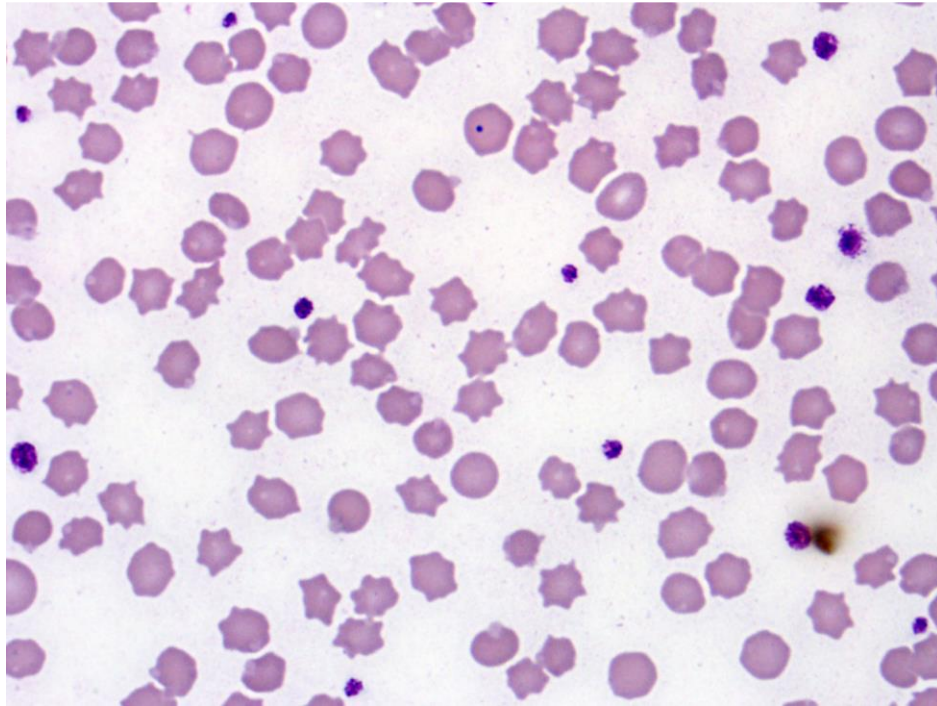
- A. Gastric bloat
- B. Ileal muscularis atrophy
- C. Gastric pyloric hypertrophy
- D. Lymphoplasmacytic colitis

60. Evaluate the following clinical pathology data from a dog and select the most likely diagnosis from the list below.

Analyte	
Serum Calcium	↑
Serum Phosphorus	↓
Serum PTH	↓

- A. Renal secondary hyperparathyroidism
- B. Primary hyperparathyroidism
- C. Hypercalcemia of malignancy
- D. Hypervitaminosis D

Cat- Blood Smear



61. Which is the most likely cause?

- A. Acetaminophen toxicity
- B. *Cytauxzoon felis*
- C. Pelger huet anomaly
- D. *Mycoplasma haemofelis*

62. Evaluate the following clinical pathology data from a dog and select the most likely diagnosis from the list below.

Folate	↑
Cobalamin (B12)	↓
TLI	N

- A. Exocrine pancreatic insufficiency
- B. Proximal small intestinal disease
- C. Distal small intestinal disease
- D. Bacterial overgrowth

63. Evaluate the following clinical pathology data from a horse and select the most likely diagnosis from the list below.

Analyte	Patient	RI
Ammonia	406	7-49
Bile acids	4.9	0-19
Urea	45	11-26
Creatinine	2.0	0.9-1.9
GGT	10	5-23
AST	243	190-380
ALP	231	109-352
CK	749	80-446
Ca	8.5	11.0-13.5

- A. Cholestasis
- B. Colic
- C. Reduced functional hepatic mass
- D. Portosystemic shunt

64. Evaluate the following results of a low-dose dexamethasone suppression test in a dog and select the most likely diagnosis from the list below.

	Cortisol		
	Pre-dex	4h-post	8h-post
Reference	0.5-6.0	<1.4	<1.4
Patient	5.0	1.0	3.5

- A. Pituitary dependent hyperadrenocorticism
- B. Functional adrenal tumor
- C. Hypoadrenocorticism
- D. Healthy (normal)

65. Evaluate the following thyroid panel from a dog and select the most likely diagnosis from the list below.

TT4	Normal
fT4 _{ed}	Low
TSH	High
TgAA	Positive

- A. Prolonged hypothyroidism with pituitary exhaustion
- B. Idiopathic 1° thyroid atrophy
- C. Lymphocytic thyroiditis with anti-T4 autoantibodies
- D. Nonthyroidal illness (sick euthyroid)

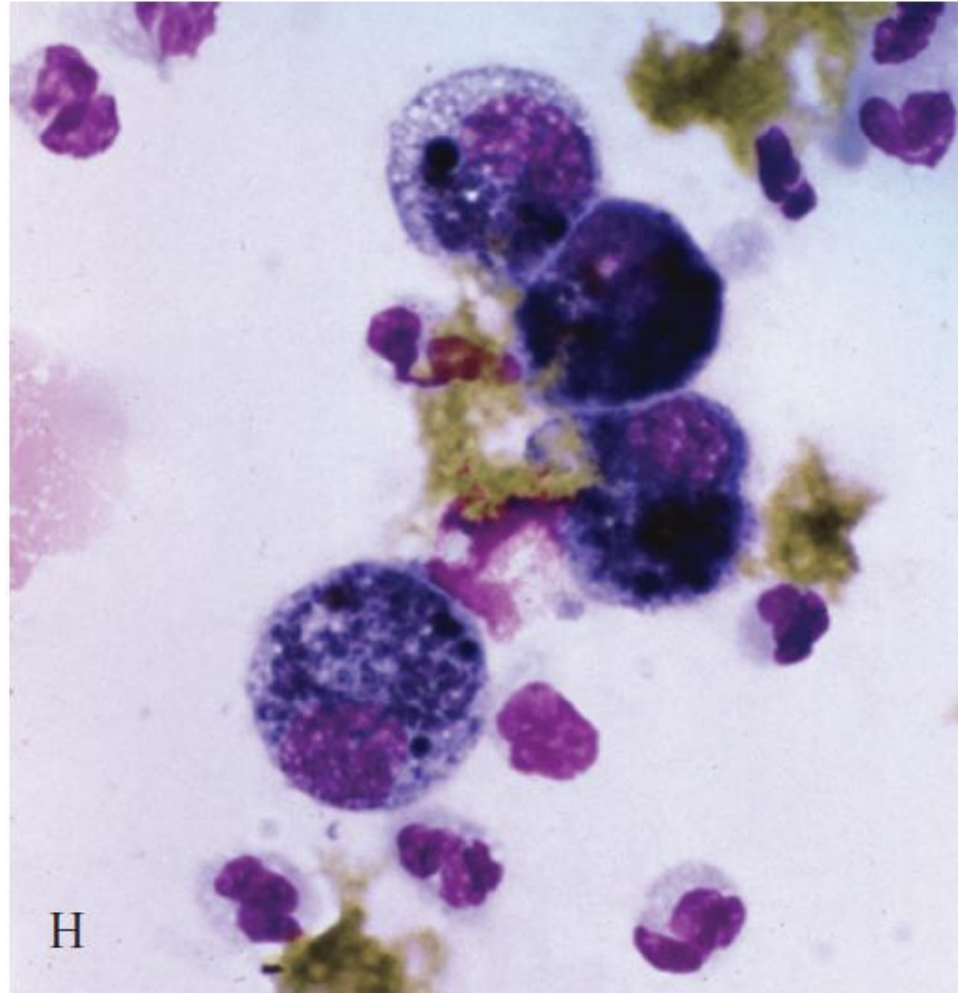
66. Laboratory data from an ox:

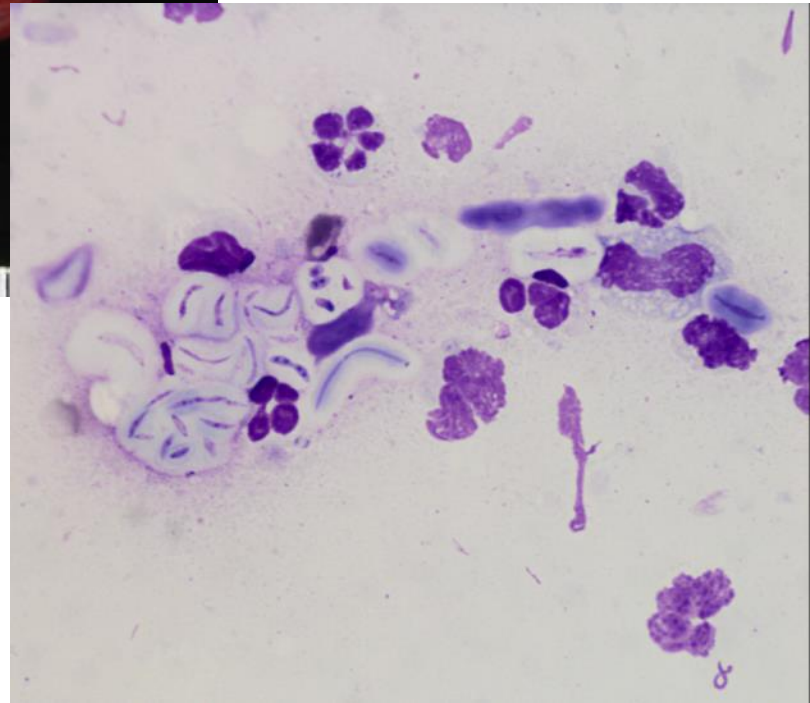
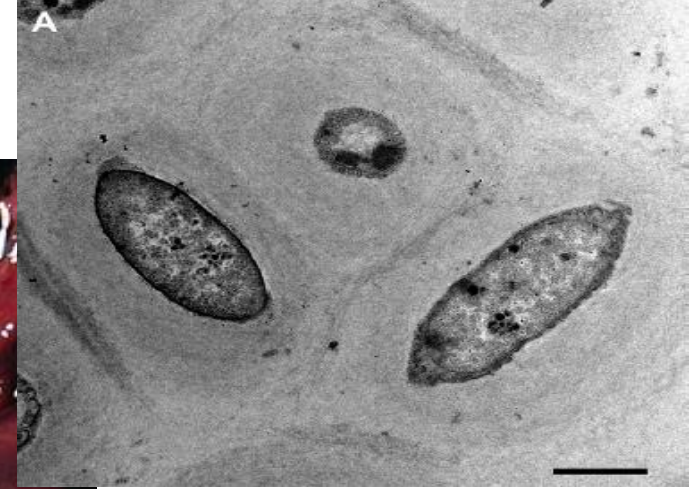
Test	Patient	RI	Units	Flag
Na	136	142-152	mEq/L	Low
K	3.0	3.9-5.1	mEq/L	Low
Cl	80	110-124	mEq/L	Low
TCO2	56	24-30	mEq/L	High

- What is the most likely diagnosis?
 - A. Ketosis
 - B. Diarrhea
 - C. Dehydration
 - D. Abomasal displacement

67. Cytology of abdominal effusion from a dog. What is the most likely cause?

- A. Cholelithiasis
- B. GI rupture
- C. Hemoperitoneum
- D. Urinary bladder rupture

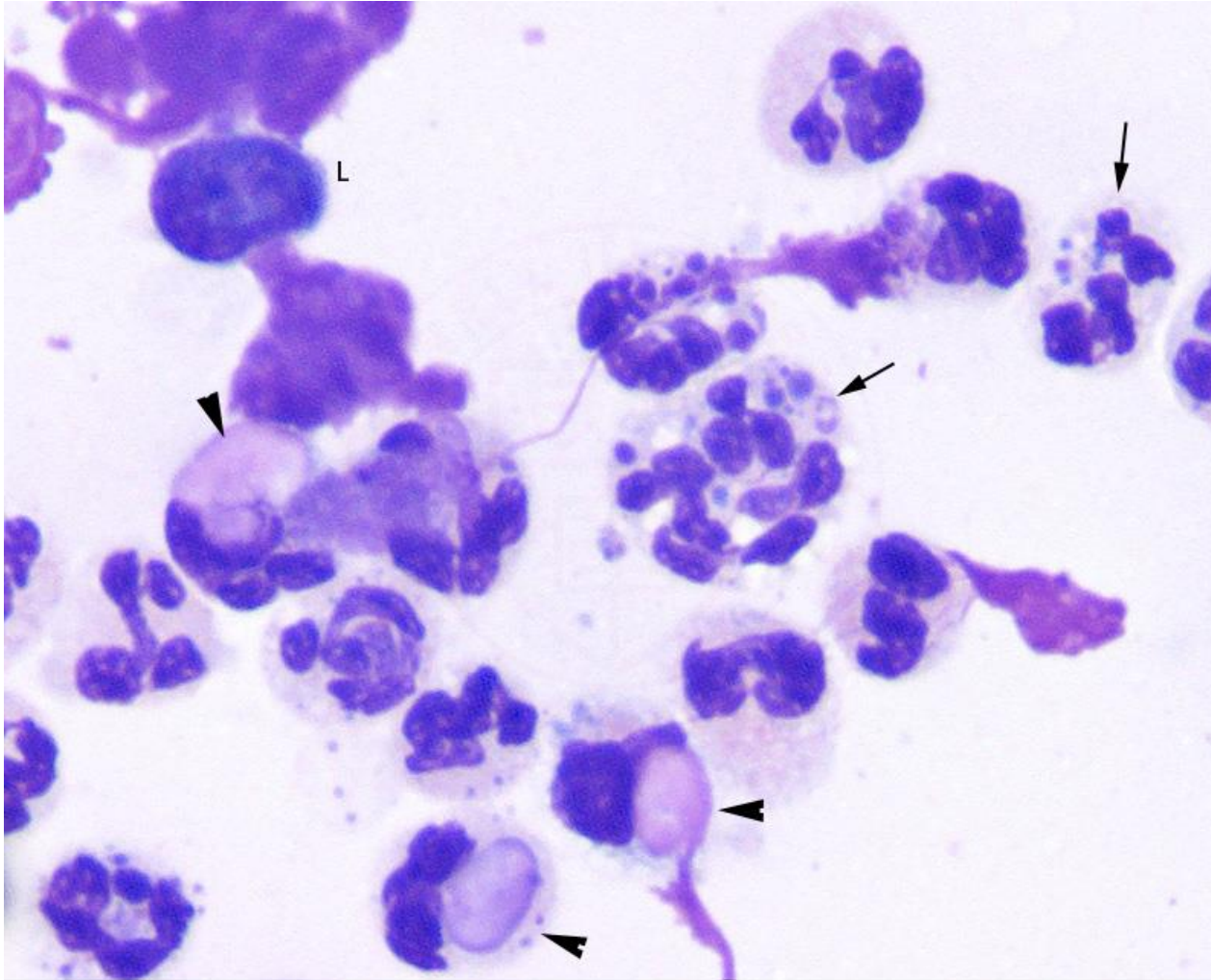




68. Which is the most likely cause?

- A. *Candida albicans*
- B. *Pseudomonas luteola*
- C. *Sporothrix schenckii*
- D. *Toxoplasma gondii*

69. CAT with swollen carpi/tarsi: SYNOVIAL FLUID, Sediment smear

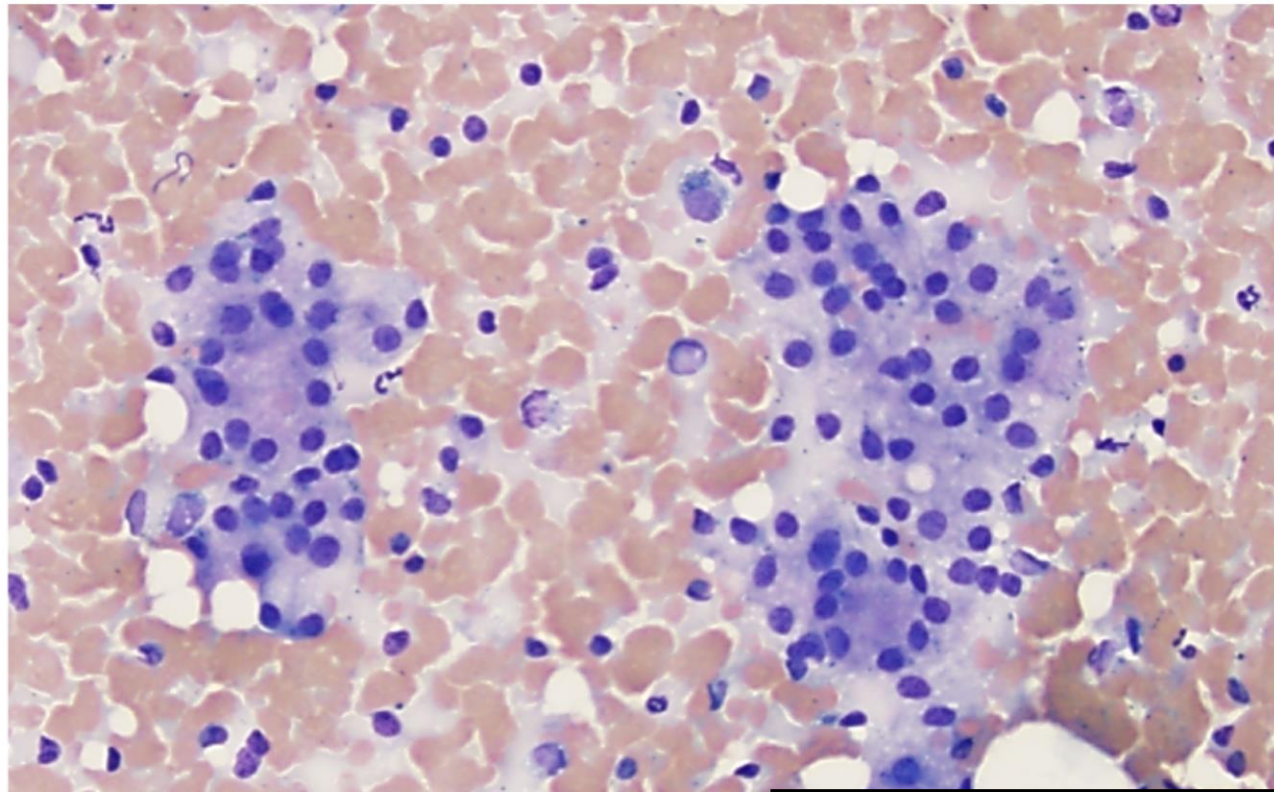


Which is the most likely diagnosis?

- A. SLE
- B. DJD
- C. *Ehrlichia* sp.
- D. Synovial cell sarcoma with secondary neutrophilic inflammation
- E. *Bartonella henselae*

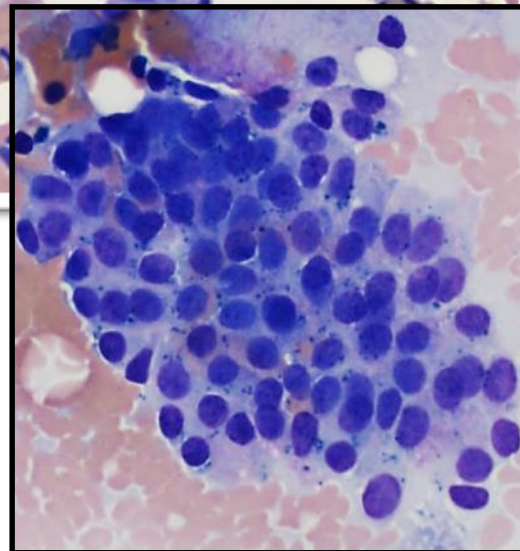
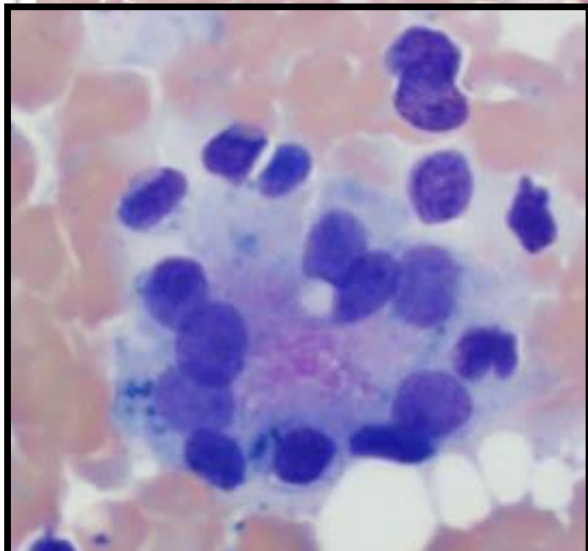
Nucleated cell count increased (>3,000/uL): primarily neutrophils, fewer lymphocytes

70. Dog: Subcutaneous mass, ventral cervical region



What is the most likely diagnosis?

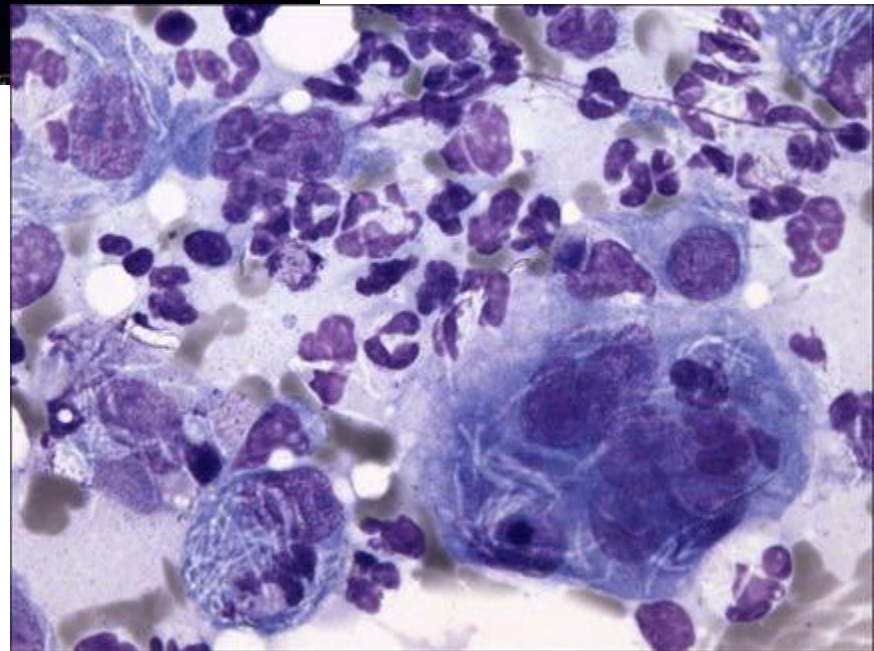
- A. Apocrine adenoma
- B. Lymphoma
- C. Salivary gland carcinoma
- D. Thyroid carcinoma





71. Tissue from a foal. What is the most likely diagnosis?

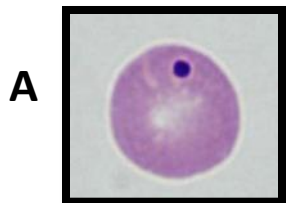
- A. *Actinobacillus equuli*
- B. *Aspergillus niger*
- C. *Clostridium piliforme*
- D. *Salmonella* sp.



72. Tissue from a sheep



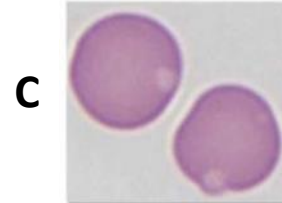
Associated CBC finding?



Howell-Jolly body – nuclear remnant
Regeneration, splenectomy



Schistocytes: shearing or
turbulent blood flow



Heinz bodies: oxidative damage
Denatured/precipitated Hb



Microagglutination: IMHA