North American Veterinary Licensing Examination (NAVLE) Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. What is the typical cause of a severe increase in bleeding times and low platelet counts in dogs?

A. Aortic thromboembolism

B. Hyperadrenocorticism

C. Disseminated intravascular coagulation (DIC)

D. Immune-mediated thrombocytopenia

2. Damage to which cranial nerve is associated with laryngeal hemiplegia in horses?

A. Glossopharyngeal (CN 9)

B. Facial (CN 7)

C. Trigeminal (CN 5)

D. Vagus (CN 10)

3. Which animal is the primary carrier of Malignant Catarrhal Fever (MCF) virus in North America?

A. Cattle

B. Horse

C. Sheep

D. Donkey

4. A 1.5-year-old horse shows symmetric ataxia and weakness. What is the most likely cause of these symptoms?

A. Equine Protozoal Myeloencephalitis (EPM)

B. Equine Motor Neuron Disease (EMND)

C. Botulism

D. Equine Degenerative Myeloencephalopathy (EDM)

5. What would you expect the blood glucose level of a diabetic cat to be if it has been in remission?

A. Above 200 mg/dL

B. Normal range 61-132 mg/dL

C. Below 60 mg/dL

D. Unpredictable, depending on food intake

6. For a diabetic cat presenting with weight gain and physical changes, which imaging modality is best to confirm suspected acromegaly?

A. Magnetic resonance imaging (MRI) of the head

B. Computed tomography (CT scan) of the abdomen

C. Ultrasound of the neck

D. Ultrasound of the abdomen

7. What is the likely diagnosis for a 2-week-old calf exhibiting watery diarrhea and weight loss?

A. Colibacillosis

B. Cryptosporidiosis

C. Coccidiosis

D. Ostertagiasis

8. Where is the spinal cord lesion in a dog with specific reflex signs based on the given clinical presentation?

A. L4-S3

B. C1-C5

C. T3-L3

D. C6-T2

9. What type of toxin is associated with Crotalaria spp. in an equine patient?

A. Nitrate

B. Organophosphate

C. Cyanide

D. Pyrrolizidine alkaloid

10. In a mare with edema and mucosal hemorrhages after a respiratory infection, what is the most likely diagnosis?

A. Cantharidin toxicity

B. Idiopathic thrombocytopenia

C. Purpura hemorrhagica

D. Bastard strangles

Answers

1. C
2. D
3. C
4. D
5. B
6. A
7. B
8. D
9. D
10. C

Explanations

1. What is the typical cause of a severe increase in bleeding times and low platelet counts in dogs?

A. Aortic thromboembolism

B. Hyperadrenocorticism

C. Disseminated intravascular coagulation (DIC)

D. Immune-mediated thrombocytopenia

A severe increase in bleeding times combined with low platelet counts in dogs is typically caused by disseminated intravascular coagulation (DIC). In DIC, there is an inappropriate activation of the coagulation cascade, leading to widespread formation of small blood clots throughout the blood vessels. This process consumes clotting factors and platelets, resulting in a paradoxical increased risk of bleeding due to the depletion of these components. As a result, dogs can present with multiple organ dysfunction and severe bleeding episodes, alongside laboratory findings that show prolonged bleeding times and low platelet counts. While other conditions like immune-mediated thrombocytopenia can lead to low platelet counts and bleeding tendencies, the systemic nature and acute onset of DIC, alongside marked changes in coagulation parameters, are distinct. DIC is frequently secondary to underlying conditions such as infections, trauma, or neoplasia, which can contribute to the severity and complexity of the clinical picture compared to the other options presented.

2. Damage to which cranial nerve is associated with laryngeal hemiplegia in horses?

A. Glossopharyngeal (CN 9)

B. Facial (CN 7)

C. Trigeminal (CN 5)

D. Vagus (CN 10)

Laryngeal hemiplegia in horses is typically associated with damage to the vagus nerve (cranial nerve 10). This condition, often referred to as "roaring," occurs when there is impairment of the recurrent laryngeal nerve, a branch of the vagus nerve that innervates the muscles controlling the vocal cords. When this nerve is damaged, it can lead to paralysis of one side of the larynx, resulting in a characteristic hoarse sound during exercise as the horse struggles to move air through the larynx. The vagus nerve plays a critical role in various autonomic functions as well as motor control of the larynx. Therefore, injury or dysfunction of this nerve can lead to significant issues with laryngeal function, which is why it is pivotal in cases of laryngeal hemiplegia. The other cranial nerves listed do not have a direct association with laryngeal function; thus, they are not implicated in this specific condition.

3. Which animal is the primary carrier of Malignant Catarrhal Fever (MCF) virus in North America?

A. Cattle

B. Horse

C. Sheep

D. Donkey

Malignant Catarrhal Fever (MCF) is primarily caused by a virus from the Herpesviridae family and is associated with specific host species. In North America, sheep, particularly domestic sheep, are the primary carriers of the MCF virus. The virus is typically transmitted to susceptible species, such as cattle and wild ruminants, through close contact with infected sheep or their secretions. Other species, such as horses and donkeys, can develop MCF but are not considered primary reservoirs or carriers of the virus. While cattle can be affected by MCF, they do not act as a natural reservoir in the way that sheep do. Understanding the role of sheep in the epidemiology of MCF is essential for managing and preventing outbreaks, particularly in agricultural settings where sheep and cattle may interact.

4. A 1.5-year-old horse shows symmetric ataxia and weakness. What is the most likely cause of these symptoms?

A. Equine Protozoal Myeloencephalitis (EPM)

B. Equine Motor Neuron Disease (EMND)

C. Botulism

D. Equine Degenerative Myeloencephalopathy (EDM)

The most likely cause of symmetric ataxia and weakness in a 1.5-year-old horse is Equine Degenerative Myeloencephalopathy (EDM). This neurological condition is associated with deficiencies in vitamin E, which is crucial for maintaining healthy nerve function. Horses affected by EDM often display progressive ataxia, which means a lack of coordination, and muscle weakness due to degeneration of the spinal cord and spinal tracts. What sets EDM apart from other conditions in the list is its age of onset typically occurring in young equines, usually between 6 months and 3 years of age. The clinical signs of symmetric ataxia are also prominent in EDM, as opposed to the more variable presentations seen in conditions like Equine Protozoal Myeloencephalitis (EPM) or botulism. In the case of botulism, while it can cause weakness, it is more commonly associated with acute onset of signs and may involve cranial nerve dysfunction, which is not typically the case with EDM. Understanding the condition's pathogenesis and presentation is crucial in differentiating it from other similar neurological issues. In summary, EDM aligns with the age and clinical signs presented in this horse, making it the most likely cause of the

5. What would you expect the blood glucose level of a diabetic cat to be if it has been in remission?

A. Above 200 mg/dL

B. Normal range 61-132 mg/dL

C. Below 60 mg/dL

D. Unpredictable, depending on food intake

For a diabetic cat that has been in remission, you would expect its blood glucose level to fall within the normal range, which is typically between 61 and 132 mg/dL. Remission in diabetes mellitus, especially in cats, can occur when the cat's body starts to produce sufficient insulin again or becomes more sensitive to insulin, leading to better regulation of blood sugar levels. As a result, when a diabetic cat is in remission, its blood glucose levels should stabilize and reflect those of a non-diabetic cat, hence falling within the normal range. The other ranges do not align with the expected physiological state of a cat in remission from diabetes. Levels above 200 mg/dL indicate hyperglycemia, which would suggest the cat is still diabetic. Values below 60 mg/dL would suggest hypoglycemia, which is not typical for a cat in remission from diabetes. The option stating unpredictability based on food intake overlooks the important fact that a cat in remission should ideally have stable blood glucose levels that are not solely dependent on immediate food intake.

6. For a diabetic cat presenting with weight gain and physical changes, which imaging modality is best to confirm suspected acromegaly?

A. Magnetic resonance imaging (MRI) of the head

B. Computed tomography (CT scan) of the abdomen

C. Ultrasound of the neck

D. Ultrasound of the abdomen

Magnetic resonance imaging (MRI) of the head is the best imaging modality to confirm suspected acromegaly in a diabetic cat due to its high sensitivity in visualizing soft tissue structures, particularly the pituitary gland. Acromegaly is often caused by a growth hormone-secreting pituitary tumor, leading to physical changes such as facial enlargement and thickened extremities. MRI provides detailed images of the brain and pituitary gland, allowing for the assessment of any enlargement or abnormal growths that are characteristic of this condition. Other imaging modalities, while useful in different contexts, do not offer the same level of detail for identifying pituitary abnormalities. A CT scan of the abdomen would primarily be used to evaluate abdominal structures and would not visualize the pituitary effectively. Ultrasound of the neck is typically for examining thyroid or parathyroid issues, not directly evaluating the pituitary gland. Meanwhile, abdominal ultrasound could help assess for pancreatic abnormalities or other organ changes associated with diabetes but would not confirm the presence of a pituitary tumor indicative of acromegaly. Thus, MRI of the head is the most appropriate choice for confirming this diagnosis in a diabetic cat.

7. What is the likely diagnosis for a 2-week-old calf exhibiting watery diarrhea and weight loss?

A. Colibacillosis

B. Cryptosporidiosis

C. Coccidiosis

D. Ostertagiasis

The likely diagnosis for a 2-week-old calf exhibiting watery diarrhea and weight loss points to cryptosporidiosis. This disease is commonly caused by the protozoan parasite Cryptosporidium parvum, which is particularly known to affect young calves, usually under 3 months of age. In neonates, cryptosporidiosis manifests as severe diarrhea that can lead to dehydration and significant weight loss, primarily due to the calf's immature immune system and underdeveloped gut flora when exposed to the parasite. The life cycle of Cryptosporidium is such that it can quickly cause infection in young animals, leading to large amounts of watery fecal excretion. While there are other diseases that could cause similar symptoms in calves, cryptosporidiosis is distinctly known for causing diarrhea in very young calves in particular. Colibacillosis, typically caused by E. coli, often presents with severe diarrhea but is frequent in younger calves particularly during the first week of life. Coccidiosis generally occurs in calves older than 3 weeks and typically presents with a different type of diarrhea. Ostertagiasis is more common in older calves or heifers and is associated with a watery diarrhea but usually appears after the first few months of life

8. Where is the spinal cord lesion in a dog with specific reflex signs based on the given clinical presentation?

A. L4-S3

B. C1-C5

C. T3-L3

D. C6-T2

In the context of evaluating spinal cord lesions in a dog based on reflex signs, the correct answer indicates a lesion located in the cervical region, specifically between the C6 and T2 vertebrae. This area is critical because it corresponds to important neural pathways involved in both reflex actions and voluntary movement. A lesion in the C6-T2 region can disrupt the upper motor neuron pathways serving the thoracic limbs, leading to characteristic signs that may include deficits in voluntary movement in the front legs, altered reflexes such as an exaggerated withdrawal reflex, and potentially altered proprioception. The C6-T2 segments are particularly significant for the thoracic limb's motor function since this is where innervation for the forelimbs originates. Additionally, clinical signs associated with lesions in this region can include an atrophy of shoulder muscles due to disuse, as well as diminished reflexes in the hind limbs depending on the severity and specific location of the lesion. Understanding the location and associated signs is crucial for accurate diagnosis and treatment planning in veterinary practice.

9. What type of toxin is associated with Crotalaria spp. in an equine patient?

A. Nitrate

B. Organophosphate

C. Cyanide

D. Pyrrolizidine alkaloid

Crotalaria spp. is well-known for containing pyrrolizidine alkaloids, which are toxic compounds that can cause serious liver damage in equines and other animals. When ingested, these alkaloids undergo metabolic activation in the liver, leading to the formation of reactive metabolites that can cause cellular damage and necrosis. This mechanism of action is particularly concerning as it can lead to conditions such as hepatotoxicity, cirrhosis, and even failure of the liver. Understanding the specific effects of pyrrolizidine alkaloids helps veterinarians in diagnosing and managing cases of poisoning in horses. Signs of toxicity include weight loss, jaundice, and liver failure, often resulting from chronic exposure to plants containing these alkaloids. The other types of toxins listed do not relate to Crotalaria spp. While nitrates and cyanides are toxins associated with different plants and can cause various toxic syndromes, they are not linked to the Crotalaria species. Organophosphates, primarily known for their role in insecticides, are another category of toxin that is unrelated to the issues caused by Crotalaria. Thus, recognizing that pyrrolizidine alkaloids are the primary concern when discussing Crot

10. In a mare with edema and mucosal hemorrhages after a respiratory infection, what is the most likely diagnosis?

A. Cantharidin toxicity

B. Idiopathic thrombocytopenia

C. Purpura hemorrhagica

D. Bastard strangles

The most likely diagnosis for a mare presenting with edema and mucosal hemorrhages following a respiratory infection is purpura hemorrhagica. This condition is often associated with a hypersensitivity reaction to Streptococcus equi, which causes the respiratory infection. In response to the infection, the mare's immune system can develop antibodies that mistakenly target her own blood vessels, leading to a type of vasculitis. The clinical signs, including edema and mucosal hemorrhage, manifest due to damage to the blood vessels, which allows blood to leak into surrounding tissues. The history of recent respiratory infection is a critical factor that supports this diagnosis, as purpura hemorrhagica typically occurs as a sequel to infections caused by Streptococcus equi or similar pathogens. Other conditions listed, such as cantharidin toxicity, idiopathic thrombocytopenia, and bastard strangles, present differently. Cantharidin toxicity usually causes gastrointestinal signs and colic rather than respiratory symptoms, while idiopathic thrombocytopenia would typically lead to a more severe bleeding diathesis and thrombocytopenic signs without the previous history of a respiratory issue. Bastard strangles is characterized by abscess formation in distant sites rather than mucosal hemorrhage and would