

Chapter 1 : Immune Mediated Disease - Animal Medical Center - New York City

Fluid-filled sacs (right), called cysts, characterize polycystic kidney disease. Polycystic kidney disease (PKD) is an inherited disorder in which clusters of cysts develop primarily within your kidneys, causing your kidneys to enlarge and lose function over time.

This blog is about veterinary medicine, diseases of the animals, diagnosis of the diseases of animals, treatment of the diseases of animals, prevention and control, and their zoonotic importance. It is also called hard pad disease because in this disease the footpad of dog become hard and the animal shows the signs of lameness. Susceptible hosts for this disease are dogs, cat, badgers, skunks, seals, ferrets, and porpoises. Animal at any stage of his life is susceptible to this virus but puppies at the age of 3 to 6 months are highly susceptible and disease is common in this age group of animals. CNS infection also occurs in dogs with low immunity. Diphasic fever is the sign of CDV. When animal recovers from the polysystemic disease, it is still shedding the virus in his body secretions especially in urine. On the basis of the clinical signs, this disease has different forms. In pulmonary form following signs showed by the animal. Anorexia, vomiting, diarrhea due to enteritis and abdominal pain. Blood may also come in diarrhea. Hyperesthesia, seizures, paresis partial paralysis due to the nerve damage , and chorea myoclonus uncontrolled movement of a muscle or a group of muscles; especially shoulder, hips, and face , chewing gum fits, nystagmus. In older dogs depression, circling, head pressing and visual defects due to degeneration of the cerebral cortex. Hyperkeratosis of nose and footpad, and pustular dermatitis. Enamel hypoplasia found in dogs that were infected with CDV before the development of permanent dentition. Puppies that are infected transparently can be stillborn, aborted, or born with CNS disease. Diagnosis is based on the clinical signs. Leukopenia and mild thrombocytopenia. But take care in this method that the sample should not be contaminated with blood and should not be vaccinated. After attaining these precautionary measures if you still find antibody titer against CDV in CSF then the diagnosis is confirmed. Rt-PCR Examination of histopathological examination. Intracytoplasmic inclusion bodies will be detected in lung, brain in gastric samples. There is no specific treatment for canine distemper. Use of antibiotic to avoid secondary bacterial infection. Do supportive therapy with normal saline and lactated ringer solution. Glucocorticoids are contraindicated in acute case but can be used in a chronic case. Isolation of infected dog. Because the virus can live for approximately one hour in the infected animal secretions. Use a disinfectant to clean the area. Because this virus is susceptible to common disinfectants. Vaccination of healthy dogs. Measles vaccines also effective against CDV. For the zoonotic point of view, the canine distemper is not a zoonotic disease. Small Animal Internal Medicine 4th ed.

Chapter 2 : Veterinary Medicine Lovers: Canine Distemper | Diagnosis, Treatment & Prevention

It's rare, but your condition may lead to acute leukemia or myelofibrosis, which are also blood diseases but are more serious than polycythemia vera. Acute leukemia is a blood cancer that gets.

There are several reasons the immune system is harder to wrap your head around than other body systems. If it is working well, you feel great. The immune system is all over your body. The respiratory system seems so obvious. You have a nose, a windpipe and lungs. The immune system can cause serious diseases when immune cells start attacking normal cells. These diseases are classified as autoimmune diseases or immune mediated diseases. **Autoimmune Disease** An autoimmune disease is a disease where a hyperactive immune system attacks normal cells as if they were foreign organisms. A diagnosis of autoimmune disease is made when the antibody produced by the abnormal immune function can be identified in the laboratory. Examples of this in people are gluten sensitivity due to an antibody induced by dietary gluten against intestinal cells, or Type 1 diabetes where the immune system makes an antibody that attacks insulin-producing pancreatic cells. Autoimmune diseases are thought to exist in veterinary patients, but tests to confirm the diagnosis are lacking. **Immune Mediated Disease** Immune mediated disease is a disease of unknown cause, but one which is thought to be modulated by an aberrant immune response. Unlike autoimmune diseases, the antibody causing this group of diseases has not been identified. This classification describes several important dog and cat diseases. In dogs and cats, immune mediated hemolytic anemia is an example of an immune mediated disease. Dogs also suffer from immune mediated thrombocytopenia and immune mediated polyarthritis. These diseases target red blood cells, platelets and joints, respectively. **Treatment of Immune Mediated Disease** The key to treatment of immune mediated diseases is to halt the immune reaction underlying the disorder. Veterinarians use immunosuppressive medications to turn off the cells of the immune system. Increasing the number of immunosuppressive agents runs the risk of turning off the immune system completely, increasing the risk for a serious infection. Dogs and cats on immunosuppressive agents need close monitoring. Once the immune disease is controlled, the medications are slowly withdrawn and the patient is carefully monitored for relapse. In future blogs, I will discuss the specifics of some common immune mediated diseases in pets.

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Despite less definitive published evidence of efficacy, corticosteroids are considered standard therapies because of their long history of use and cost effectiveness. For example, in the U. Immunosuppressive drugs are often of the cytotoxic chemotherapy class, including rituximab Rituxan which targets B cells , and cyclophosphamide , a drug which reduces the function of the immune system. Cyclosporin has also been used in CIDP but with less frequency as it is a newer approach. Before azathioprine is used, the patient should first have a blood test that ensures that azathioprine can safely be used. Anti-thymocyte globulin is the gamma globulin fraction of antiserum from animals that have been immunized against human thymocytes. It is a polyclonal antibody. Although chemotherapeutic and immunosuppressive agents have shown to be effective in treating CIDP, significant evidence is lacking, mostly due to the heterogeneous nature of the disease in the patient population in addition to the lack of controlled trials. A review of several treatments found that azathioprine, interferon alpha and methotrexate were not effective. Mycophenolate mofetil may be of use in milder cases. Immunoglobulin and steroids are the first line choices for treatment. In severe cases of CIDP, when second-line immunomodulatory drugs are not efficient, autologous hematopoietic stem cell transplantation HSCT is sometimes performed. The treatment may induce long-term remission even in severe treatment-refractory cases of CIDP. To improve outcome, it has been suggested that HSCT should be initiated before irreversible axonal damage has occurred. Prognosis[edit] As in multiple sclerosis , another demyelinating condition, it is not possible to predict with certainty how CIDP will affect patients over time. The pattern of relapses and remissions varies greatly with each patient. A period of relapse can be very disturbing, but many patients make significant recoveries. If diagnosed early, initiation of early treatment to prevent loss of nerve axons is recommended. However, many individuals are left with residual numbness, weakness, tremors, fatigue and other symptoms which can lead to long-term morbidity and diminished quality of life. Because of the rarity of the illness, many doctors will not have encountered it before. Each case of CIDP is different, and relapses, if they occur, may bring new symptoms and problems. Because of the variability in severity and progression of the disease, doctors will not be able to give a definite prognosis. A period of experimentation with different treatment regimens is likely to be necessary in order to discover the most appropriate treatment regimen for a given patient.

Chapter 4 : UGA : UGA CVM DVM Curriculum

Progressive polysystemic immune-mediated disease in a dog. Werner LL, Bloomberg MS, Calderwood Mays MB, Ackerman N. A dog with polyarthritis, angular joint deformities, and a high serum antinucleolar antibody titer was treated over a period of 20 months.

A Handbook, 2nd ed. An Outline of Swine Diseases: The book is a small and simple handbook no photographs or illustrations that provides a point-form review of pig diseases. The book is divided into 10 chapters. The following 2 chapters consist of pointform summaries of diseases grouped according to body systems, with chapter 2 devoted to polysystemic diseases. The final chapter lists diseases caused by toxic agents and is the largest chapter in the book. Toxicity problems tend to be rare in modern confinement pig farming, and so it is surprising that they receive this much attention from the authors. Diseases are presented with the usual headings of etiology, epidemiology, pathogenesis, clinical signs, diagnosis, treatment, prevention, and control. Typical of this type of handbook, each disease receives about equal space. The drawback to this approach is that the reader may find it difficult to determine which diseases are important and which are either very rare or nonsignificant. The authors have done a thorough job and have included several recent diseases not listed in their 1st edition, including postweaning multisystemic wasting syndrome. There are a few relatively common diseases that are not covered, possibly because the authors considered them to be not very important. Under integumentary diseases, for example, pityriasis rosae and ringworm are not mentioned, but swine pox is. This text would have been more useful as a study guide or veterinary manual had the authors included tables or charts. The differential diagnosis of swine diseases is generally aided by knowing the age or production group affected, the pattern of spread, and other key points of history or clinical signs. A chart showing how the various diseases could be differentiated on this basis also would have helped pull the information together. Streptococcal meningitis, for example, is listed under polysystemic diseases and not neurological diseases. I think someone using this book as a quick reference might miss a likely rule-out, such as streptococcal meningitis by scanning the chapter relating to the body system. The authors do not reference their work but they do provide a list of suggested readings after some of the disease entries. The information provided in the book is accurate and up-to-date, but is not extensive. The scope of the book is similar to other disease guides currently available, including: Alexander 5M Enterprises Inc. Cowart and Casteel do not attempt to deal with the complexities of swine practice, such as the interaction of disease, management, and the environment, and do not discuss production records or economics. Therefore, veterinarians in swine practice are likely to be disappointed by the limited depth of the book, but for the mixed practitioner who rarely deals with pigs, this book may be a useful guide. The main readership is likely to be undergraduate veterinary students preparing for board examinations or anyone else wishing a quick review of pig diseases.

Chapter 5 : Nutritional Programs: Nutritional Program for Yeast Syndrome

*polysystemic definition: Adjective (comparative more polysystemic, superlative most polysystemic) 1. Affecting or relating to more than one system.a polysystemic disease*Origin poly- +*systemic* Definitions.

Autosomal dominant inheritance pattern Autosomal dominant inheritance pattern In an autosomal dominant disorder, the mutated gene is a dominant gene located on one of the nonsex chromosomes autosomes. You need only one mutated gene to be affected by this type of disorder. A person with an autosomal dominant disorder “ in this case, the father “ has a 50 percent chance of having an affected child with one mutated gene dominant gene and a 50 percent chance of having an unaffected child with two normal genes recessive genes. Autosomal recessive inheritance pattern Autosomal recessive inheritance pattern To have an autosomal recessive disorder, you inherit two mutated genes, one from each parent. These disorders are usually passed on by two carriers. Their health is rarely affected, but they have one mutated gene recessive gene and one normal gene dominant gene for the condition. With each pregnancy, two carriers have a 25 percent chance of having an unaffected child with two normal genes left , a 50 percent chance of having an unaffected child who is also a carrier middle , and a 25 percent chance of having an affected child with two recessive genes right. Abnormal genes cause polycystic kidney disease, which means that in most cases, the disease runs in families. Rarely, a genetic mutation occurs on its own spontaneous , so that neither parent has a copy of the mutated gene. The two main types of polycystic kidney disease, caused by different genetic flaws, are: In the past, this type was called adult polycystic kidney disease, but children can develop the disorder. Only one parent needs to have the disease for it to pass to the children. This form accounts for about 90 percent of cases of polycystic kidney disease. The signs and symptoms often appear shortly after birth. Both parents must have abnormal genes to pass on this form of the disease. If both parents carry a gene for this disorder, each child has a 25 percent chance of getting the disease. Complications Complications associated with polycystic kidney disease include: Elevated blood pressure is a common complication of polycystic kidney disease. Untreated, high blood pressure can cause further damage to your kidneys and increase your risk of heart disease and stroke. Loss of kidney function. Progressive loss of kidney function is one of the most serious complications of polycystic kidney disease. Nearly half of those with the disease have kidney failure by age PKD can interfere with the ability of your kidneys to keep wastes from building to toxic levels, a condition called uremia. As the disease worsens, end-stage kidney renal failure may result, necessitating ongoing kidney dialysis or a transplant to prolong your life. Pregnancy is successful for most women with polycystic kidney disease. In some cases, however, women may develop a life-threatening disorder called preeclampsia. Those most at risk have high blood pressure before they become pregnant. Growth of cysts in the liver. The likelihood of developing liver cysts for someone with polycystic kidney disease increases with age. While both men and women develop cysts, women often develop larger cysts. Female hormones might contribute to cyst development. Development of an aneurysm in the brain. A balloonlike bulge in a blood vessel aneurysm in your brain can cause bleeding hemorrhage if it ruptures. People with polycystic kidney disease have a higher risk of aneurysm. People with a family history of aneurysm seem to be at highest risk. As many as 1 in 4 adults with polycystic kidney disease develops mitral valve prolapse. When this happens, the valve no longer closes properly, which allows blood to leak backward. Weaknesses and pouches or sacs in the wall of the colon diverticulosis may develop in people with polycystic kidney disease. Pain is a common symptom for people with polycystic kidney disease. It often occurs in your side or back. The pain can also be associated with a urinary tract infection, a kidney stone or a malignancy. Keeping your kidneys as healthy as possible may help prevent some of the complications of this disease. One of the most important ways you can protect your kidneys is by managing your blood pressure. Here are some tips for keeping your blood pressure in check: Take the blood pressure medications prescribed by your doctor as directed. Eat a low-salt diet containing plenty of fruits, vegetables and whole grains. Maintain a healthy weight. Ask your doctor what the right weight is for you. If you smoke, quit. Aim for at least 30 minutes of moderate physical activity most days of the week.

Chapter 6 : Polycystic kidney disease - Symptoms and causes - Mayo Clinic

The primary NIH organization for research on Autoimmune Diseases is the National Institute of Arthritis and Musculoskeletal and Skin Diseases Disclaimers MedlinePlus links to health information from the National Institutes of Health and other federal government agencies.

Yeast Syndrome Nutrient Program The "yeast" problem with *Candida albicans* is one of the new medical concerns of the s that will continue into the next century. It has been described by many prominent physicians, including C. It is a very common problem, one of the most frequent I see, and is to me a medical adventure, because I learn a great deal while working with people with this problem. Often the therapy for yeast, or candidiasis as it is commonly known, will positively and dramatically change lives. The somewhat complex, multilevel treatment program has been effective in a high percentage of the people I have treated, and I have worked with hundreds with this problem to date. Most traditional doctors do not want to hear about this condition and call it a "fad" disease, but those who will explore the possibility and look for it in their patients will be hard-pressed not to accept this problem as "real. The problem originates when a common yeast, *Candida albicans*, begins to overgrow in the intestinal or genito-urinary tract. It may be contracted initially through sexual contact. When other normal body microflora are killed off by antibiotics, the yeasts will then proliferate and coexist with the useful germs. Mild mucocutaneous infections of the skin, vagina, throat, or bladder, for example may develop in the yeast phase of this dimorphic organism. This common yeast is usually noninvasive that is, it remains localized except in the severely debilitated patient. However, with long-term infestation or with the weakened immune state that can result from a reduction of normal colon bacteria, the yeast can shift into its fungal form, wherein it develops rhizoids, or roots, that can be implanted in the intestinal wall or other mucosal linings. This allows absorption into the body of by-products toxins of fermentation and other antigenic material generated by the fungus. The body will then make antibodies to the *Candida albicans* organisms. This can lead to an immunological or hypersensitivity reaction that is manifested as the polysystemic disease for which this syndrome is now known. I would estimate that a significant number of women with PMS have a problem with *Candida albicans*, and probably more than half the women with candidiasis have some uncomfortable premenstrual symptoms. Diagnosing polysystemic candidiasis may involve several tests. Most doctors who work with this problem use a questionnaire such as the one provided by Dr. Crook in his book, *The Yeast Connection*. The scores indicate the likelihood of a yeast problem, and while not exact, this is a pretty accurate tool. Many doctors suggest a trial treatment program merely on the basis of an interview, exam, and questionnaire score, as the response to therapy is often a good indication of the presence of the problem. However, I like to have more objective monitors, so I perform two main tests, both reasonably inexpensive. One is a culture of a stool specimen to quantify the amount of *Candida albicans* or other yeast organisms present. This can then be repeated to measure the effectiveness of the program. Also, a sensitivity test that finds what substances will actually kill the yeast in the lab, at least can be done after the organism is isolated. If these antibodies are elevated, this suggests that some systemic reaction is occurring in the body the stool reveals only an intestinal overgrowth , which may be correlated with more widespread symptoms. Reducing yeast organisms in the body and replacing friendly bacteria will usually reduce elevated antibody levels. Other tests may be helpful in determining coexisting medical problems. A study of the stool for ova and parasites may show these to be more commonly present in yeast carriers than in the average population, as often the same predisposing factors, poor digestion and low stomach acid, are present. Treatment may also be needed to eliminate these parasites. Creating proper colon ecology is a crucial factor in health, disease resistance, and many important body functions. When normal colon bacteria are present in sufficient quantities which they may not be when other invaders are taking their place , they will actually produce many vitamins using the nutrient fuel provided them. Intestinal bacteria also aid final digestion of food, such as proteins and milk. With low colon bacteria counts, poor digestion, and an unhealthy intestinal lining, more food allergies may develop. A blood test measuring specific antibodies to many commonly allergenic foods may be indicated in some people with candidiasis, especially when there is a real problem

with food intolerance. Many others are possible, but those are the ones I have found to be most common and most strong. Do not feed the yeasts foods upon which they thrive. Reduce yeast growth through natural and pharmaceutical agents. Reestablish normal intestinal ecology. The overall approach to treating the yeast problem is threefold. The first facet is to refrain from feeding those "yeastie beasties" what they like to eat so they can thrive and divide. They live on mostly simple sugars and yeast and fermented foods. These include fruits, fruit juices, and dried fruits, sugary foods, refined flour products, alcoholic beverages, cheese, vinegar, breads, and other yeasted fermented food products, such as soy sauce. All these foods are avoided on the yeast diet. The antiyeast diet is more difficult for vegetarians, but definitely possible. Some yogurt, especially acidophilus culture, is all right if milk is tolerated. Oils are obtained from some butter and more cold-pressed vegetable oils, such as olive, flaxseed, sesame, and sunflower. Legumes are often limited because they add to intestinal gas. Basic meals include proteins and vegetables or, occasionally, starch and vegetables. For the first few weeks, the carbohydrates, including pastas and especially breads, are limited, with only some whole grain cereals being used. This lowers fiber intake, but usually other aspects of the treatment help colon function. The rotation is a good way to reduce food reactions. Initially, the diet includes no fruit, or only one piece a day, and none of the sweeter fruits, such as grapes, bananas, and melons. The starches are limited to one portion a day, and the meals are oriented toward proteins and vegetables. This is a special therapeutic diet, and not necessarily a lifelong one, though many people like the way they feel on it. Intestinal symptoms decrease, energy improves, and itchy or irritated skin may start to heal with a decrease in sugar and yeasty foods. Also, some weight can be shed easily on this diet. This may be a problem for the already trim person, and lighter people need to emphasize regular eating to prevent weight loss. If they seem to cause no problems, we can then bring these foods into our diet on a rotating basis. Eventually, adding more whole grains and fiber will provide what I believe is a healthier diet. Different degrees of strictness with the diet may be necessary, depending on the severity of the problem.

Chapter 7 : polysystemic - Wiktionary

Affecting or relating to more than one system. a polysystemic disease.

Chapter 8 : Progressive polysystemic immune-mediated disease in a dog.

Polyarthritis, systemic: A chronic inflammatory disease (usually autoimmune) that causes inflammation in multiple parts of the body and causes arthritis in five or more joints. More detailed information about the symptoms, causes, and treatments of Polyarthritis, systemic is available below.

Chapter 9 : UGA : Curriculum and Areas of Emphasis

Polycystic kidney disease (PKD or PCKD, also known as polycystic kidney syndrome) is a genetic disorder in which the renal tubules become structurally abnormal, resulting in the development and growth of multiple cysts within the kidney.