A New Treatment For Parvoenteritis

On April 24, 2004, the concept of treating Parvoenteritis in dogs with a neuraminidase inhibitor (Tamiflu) was introduced on the Veterinary Information Network's Infectious Disease Board. Since then, Tamiflu has been used successfully by veterinarians, shelter workers and rescue groups to treat Parvoenteritis in thousands of dogs, cats and raccoons throughout the world.

Tamiflu: Oseltamivir is one of two commercially available sources of a neuraminidase inhibitor that has been used successfully in treating infectious parvoenteritis.

Neuraminidase: An enzyme that is produced by both bacteria and viruses. It is considered a virulence factor in viral and bacterial infections that require neuraminidase to remove biological barriers that protect the host.

Super infections: Any infection that requires both a virus and bacteria to produce an infection that is more pathogenic than either infectious agent can produce alone. Veterinary examples: canine and feline Parvo, canine kennel cough and influenza, feline URI, parvoenteritis in raccoons, and bloody scowls in deer.

The use of Tamiflu in canine, feline, and raccoon parvoenteritis: The success of using a neuraminidase inhibitor in treating canine and feline Parvo is due to the suppression the production of bacterial neuraminidase, and has no effect on the Parvovirus' ability to replicate. Puppies can still develop myocarditis and CHF...kittens can still develop cerebellar hypoplasia...the patient's feces will still contain the viral antigen even while the animal is recovering. Tamiflu does not interfere with the replication of the Parvovirus, and as a result, no mutant or resistant strains of the Parvovirus will be created from the use of Tamiflu.

Tamiflu should never be used to treat any animal that does not test (+) using the fecal antigen test. All of the guidelines for using Tamiflu have been developed in cases that have had a (+) fecal Parvo test.

Dose: 1mg/lb that dose given every 12 hours for 10 consecutive treatments...requires a (+) fecal antigen test.... There is a direct relationship between clinical response and the time treatment is started…Tamiflu should be given w/in 48 hrs of onset of clinical signs...if no response after the first dose...double to 2mg/lb for the second, third dose, etc.

Specific Breeds of Dogs: Dobies, Rotties, Retrievers, Pit Bulldogs, and Alaskan sled dogs...all require at least 2mg/lb as the starting dose as these breeds respond poorly to Parvo infections...

As a preventive: Animals have been exposed, but are not currently showing any clinical signs should be given 1mg/lb once a day for 5 days...if these animals develop one or

more clinical signs (vomiting/bloody diarrhea/anorexia)...treatment should be changed so that they are given 1mg/lb every 12 hr for a total of 10 treatments.

Animals requiring IV support: Animals sick enough to require IV support (fluids/antibiotics/antiemetics) respond poorly to Tamiflu. Their clinical condition is the result of a damaged GI tract with the introduction of GI bacteria and toxins beyond Tamiflu's ability to protect the patient. If used, Tamiflu can be started at 2mg/lb and the dose adjusted according to the patient's response every 12 hours.

Animals that vomit after being given oral Tamiflu: These patients can be given the same dose as an enema. You can also divide the contents of a 75mg capsule into lines and mix the appropriate amount into pancake syrup or honey and place under the tongue or in the lip fold.

Tamiflu Products: There is a suspension that you add 23 cc of water to get 25cc of 12mg/cc. There is also a flat of ten 75 mg capsules.

To use capsules to treat a 5 lb puppy: Mix the contents of 1 capsule into 10 cc of a liquid diet like Canine Rebound...this will create a 10cc suspension with a concentration of 7.5mg/cc....Refrigerate and shake well and give 1cc q. 12 hrs x 10 treatments.... do not mix capsules with water as this water suspension is very bitter and can cause the patient to vomit. One can also use liquid VAL or similar vitamin prep.

To use the suspension (12mg/cc) to treat a 5 lb puppy: Shake well and give the puppy 0.5cc of the suspension q. 12 hrs x 10 treatments. Refrigerate the suspension after adding water and between treatments.

Tamiflu and FDA: On March 20, 2006, the FDA banned the use of Tamiflu and other neuraminidase inhibitors in treating chickens, ducks, turkeys and other birds...goes into effect in June 2006.... you can still use Tamiflu in dogs, cats, and raccoons.

In the emergency clinics or private clinics that are presented with cases whose disease course is unknown or have exceeded the 48 hrs time-frame: The professional staff should make the client aware of the poor response to Tamiflu due to the high levels of bacterial neuraminidase currently present in the patient's GI tract, and the presence of GI pathology created prior to presentation. Tamiflu will only prevent future pathology, and cannot reverse any pathology created prior to treatment.

Treating Parvo requires the same mental process used in treating Diabetes Mellitus.... The DVM begins with a standard initial dose of Tamiflu or insulin and then uses professional judgment to adjust the following doses required to get a clinical response.

In an uncomplicated case, presented within 48 hrs. of the onset of clinical signs, one should see no vomiting after the first dose...no diarrhea after the 2nd...and alert/eating after the 3rd dose. If there is no clinical response after the 3rd dose...you have either

started using Tamiflu too late, have a secondary medical problem that needs to be addressed, or have the wrong diagnosis.

In summary, the introduction of the concept of using a neuraminidase inhibitor to treat canine, feline and raccoon Parvoenteritis, has opened many new doors into the understanding of the pathobiology and treatment of this disease. Prior to April 24, 2004, Parvovirus was thought of as viral enteritis. Based on this concept, vaccines were developed to help prevent or reduce the severity of the clinical disease.

Once the disease was diagnosed, treatment protocols were all designed to address the various end products produced during the disease. The presence of vomiting and/or diarrhea usually dictated that most drugs were given intravenously. Animals that are hospitalized usually remain 3-7 days with unpredictable prognosis. This is because none of the treatments address the core problem of excessive GI bacterial neuraminidase. Drugs are given to address all of the various reactions such as: vomiting, endotoxic shock, pain, bacterial septicemia, GI mucosal ulcerations and general organ failure. This approach requires many drugs and man-hours to treat the multiple pathological processes associated with viral Parvoenteritis.

With the introduction of using a neuraminidase inhibitor (Tamiflu), we established that Parvoenteritis is not a viral enteritis, but a super infection that requires the presence of bacterial neuraminidase. When a neuraminidase inhibitor is use under the strict guidelines developed since April 24, 2004, the disease is not allowed to develop into the clinical disease currently known as viral Parvoenteritis. The commensal bacteria do not transform into pathologic bacteria, and the patient's disease is not allowed to progress as described in the veterinary literature. In order to achieve this reversal, there has to be a definitive diagnosis and the neuraminidase has to be given according to established guidelines.

Please keep in mind that any recommendations given in this article are not FDA approved. They are offered to help educate and guide those anticipating using Oseltamivir therapy in the future. Roadrunner Pharmacy is currently in the process of acquiring Oseltamivir powder to be compounded into the various formulations and concentrations requested by our clients.

To insure the continual gathering of clinical data, please contact Jack J. Broadhurst, DVM at doccat@aol.com or fax at 910-295-2265. There is a clinical trial form that if filled out and returned, will insure a central point for clinical results to be stored. He can also be contacted at 910-295-2287.

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