Canine Distemper

What is Distemper?

Canine distemper is caused by a virus of the same family as that of what we normally call measles in humans. Although they are of the same family, symptoms are actually rather different. Canine Distemper, also known as "Old Dog Encephalitis" or "Hard Pad Disease" has been said to have two phases. The first phase consists of biphasic fever (fever occurring on and of… although commonly the fever often occurs in the evenings); respiratory symptoms such as coughing, sneezing, ocular and nasal discharge; and/or gastrointestinal disorders such as diarrhea and vomiting. During this phase, we often take for granted the severity of the disease especially since symptoms may often disappear on its own with or without treatment. However, it is not uncommon for secondary bacterial infection to set in when your pet is in an immunocompromised state due to the distemper virus. During this condition, symptoms may seemingly resolve or improve with antibiotic therapy and supplements. The first phase of the infection usually lasts about a week or so after which, the disease then goes through a "latent" state, or a sort of lull period. Because of this characteristic, owners and vets tend to dismiss the illness as a simple respiratory infection or a gastrointestinal disorder. However, like a thief in the night the virus then attacks a second time after 3-4 weeks (although some have been known to attack years after when the dog is old and weakened, thus the name Old Dog Encephalitis). During this phase, neurologic symptoms then become apparent, along with this it is common (although not required) that we notice that our pet's footpads become very hard, hence the name Hard Pad's Disease. It is during this neurologic phase that we observe nervous symptom damage. Neurologic symptoms would include involuntary muscle twitching, difficulty in walking or standing, chewing gum motions of the jaw, and paralysis. Ascending paralysis is commonly observed in distemper patients where paralysis start at the hindlegs (beginning with only difficulties in motion) then progressing towards the head. Until full paralysis and death follows.

Key points of Detecting distemper in your Pet:

• ***Unvaccinated*** – a dog must be vaccinated for Distemper yearly. The vaccines given during puppyhood is not enough to protect them their whole lives.





• ***Severe nasal and ocular discharge*** which is often yellow or yellow-green in color.

• ***Involuntary muscle twitching*** – not the twitching we notice when our dog's are asleep and dreaming.

• ***Chorea*** or chewing gum motions of the jaws.

• ***Fever*** – temperatures that are beyond 40 degrees Celsius and are difficult to bring down despite anti-piuretics.



• ***Hard Pads and Seizures***

• ***Paralysis*** which starts at the hindlegs while eliminating trauma as the possible cause of the paralysis.

• ***History of respiratory or gastrointestinal symptoms*** 3-4 weeks prior..

How is my Pet Diagnosed?

Commonly available test kits in the market are :

-**Rapid test kits** – detects antigens or the actual virus (looks similar to pregnancy tests)

>Samples used are:

-Blood/Serum
-Feces
-Nasal or ocular swabs
-Spinal fluids

-ELISA (Enzyme Linked Immunoassay) – detects distemper antibodies.

>Samples used:

-Blood/serum

At ***Pendragon Veterinary Clinic***, our preferred diagnostic test is the ELISA. This test has actually proven to be more sensitive in our practice. We have had instances wherein a patient exhibiting textbook symptoms of distemper was found negative on the rapid test kits while it was found positive on ELISA. Also, ELISA gives us a rough estimate as to how long the infection has been. The limitation of the ELISA test however, is when a patient does not mount a proper immune response to the disease or when the disease is in its early stages. Also, False negative results may occur in the ELISA when exposure to the disease is only a few days old since the immune system generally takes 2 weeks to produce the antibodies for a specific infection. Not to say, however, that we do not use the rapid test kits, there have been instances that the rapid test kits have proven to be more efficient than that of the ELISA. This is why, one should have an open mind to do re-testing when necessary. Vaccines against Distemper may cause reactions to the laboratory tests. This would mean that false positive results may occur in the event that your pet has been recently vaccinated. This is true for both the rapid tests as well as the ELISA. However, ELISA testing has allowed us to differentiate between antibodies caused by an infection exposed to protective antibodies. However this requires two types of ELISA testing, ELISA test for Distemper IgM antibodies and a ELISA Distemper test for IgG antibodies. Immunoglobulin G or IgG are the antibodies considered to give a pet immunity against a disease and production of these usually take 3-4 weeks to produce. While immunoglobulin M are one of the first antibodies produced when an infection sets in or when an animal is exposed to a specific virus. Because IgM is produced when a virus invades an animal, this response happens when an actual infection sets in or when a vaccine is given. In instances where your pet has been recently vaccinated and may be showing signs of distemper, diagnosis is difficult, long and expensive, however, it is not impossible.

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What are my treatment options?

Distemper for the longest time has been a dreaded disease because of its high mortality with very little treatment options. Very often, vets will simply advised clients to save their pet from the pain they would have to endure through the disease and to just "put their dogs to sleep" or to euthanize them. Today, however, it is a very different matter. Recent developments in the treatment of distemper has left owners with some options. We will try to enumerate these options as simple as possible :

1. ***Canglob D***. Because Distemper is a viral infection, the most conventional mode of treatment for viruses even in humans is through administration of an Immunoglobulin specific to the virus being treated. What is an immunoglobulin? Once could say that an immunoglobulin is like a soldier of the body's immune system. Immunoglobulins are manufactured as a response of our immune system to an "invader". This may be an actual infection or a vaccine. When our immune system gets overwhelmed by an infection, the body becomes sick, as such, our body needs reinforcements to kill the infection, this is when immunoglobulin's are administered to help the body fight off infection. This immunoglobulin is specific to the distemper virus. The specific immunoglobulin available in the Philippine market is called Canglob D, although this treatment option is not popularly used in 1st world countries such as the U.S. and very little can be researched on it. The treatment regimen consists of everyday intramuscular injections for 7-10 days while prophylaxis injections are given around 3 injections every 3 days.

Advantages :
>Confinement is not necessary
>More readily available at any clinic
>Easily accessible through purchase from a veterinary supplier.
>May be less costly
>May be used as a prophylaxis option

Disadvantage :
<Less convenient because of the daily required trips
<May be more costly if confinement is opted (assuming the clinic confines distemper patients)
<More painful injections (Daily Intramuscular injections)
<Ineffective against infection that is severely into the neurologic phase

2. Sear's Serum. The sear's serum is a more unconventional treatment option. It was discovered by accident by Dr. Alson Sears. The method entails finding a donor dog and vaccinating this dog against New Castle's Disease. This vaccine is a common vaccine used for poultry or chickens. After the NCD vaccine is administered to a donor dog, an immune response is created by the body which is not completely understood, however, whatever is produced 11-12 hours after administration of the NCD vaccine has been known to destroy the Distemper virus. Therefore, 11-12 hours post administration of the NCD vaccine, blood is collected from the donor dog and the serum is processed. A donor dog may only be collected from ONCE. The succeeding times that a donor becomes exposed to the NCD vaccine, the immune system response is very different and the serum collected is virtually useless in treating Distemper. The serum (the clear portion of blood) collected is then administered to the patient inflicted with distemper. The limitation of this procedure however is that it is not known to cross the blood brain barrier and therefore is ineffective against treating the neurologic phase of Distemper. This treatment option is DIFFERENT from the Spinal Tap.
Read more on www.kindheartsinaction

Advantages :
>Treatment regimen only lasts for 36 hours and is more convenient.
>Only 3 injections are necessary
>Injection is subcutaneously and less painful.

Disadvantage :
<Confinement is recommended since injections are given every 12 hours.
<May be more costly due to confinement
<More difficult to find and produce because donors can only be exposed to the NCD vaccine and collected from once.
I<neffective against infection that is severely into the neurologic phase.

2. Spinal Tap. The spinal tap is also a method developed by Dr. Alson Sears. This method is actually considered a last resort. For patients who have progressed to the neurologic phase of Distemper (muscle twitching, seizures, paralysis), this is the recommended treatment method. The first two treatment methods are effective against systemic Distemper, however, it is ineffective against neurologic damage. Because the blood brain barrier is a special structure that does not allow the crossing of most substance from the body to the brain, Canglob D and the sears serum is unable to treat Distemper that has already found its way to the brain. However, there is still hope…. In severe cases, a spinal tap is done to directly introduce the New Castle's Disease vaccine into the topmost portion of the spine, giving way to an immune response that is created with the brain of the patient, thus the produced immune response able to kill Distemper has access to the brain and is able to destroy Distemper Virus found there. This treatment method however, has its risks and successful treatment is 50:50. Bear in mind though, that as mentioned before, the immune response from exposure to the NCD vaccine that is capable of destroying Distemper happens only once. Therefore patients that have been exposed to the NCD vaccine, through IV injection or through intramuscular injection are not likely to produce the proper response to kill off the Distemper found in the brain. This being the case, we DO NOT recommend using NCD vaccine IV or IM since this takes a way the full efficacy of a spinal tap should you need it as a last resort.

Advantages :
>Able to treat neurologic phase of Distemper
>Method is cheaper
>Only 1 single NCD vaccine spinal tap is needed.

Disadvantage :
<Confinement is recommended since it is best to keep the pet under observation following the spinal tap.
<Procedure is high risk.
<Patient will need to be sedated.
<Veterinarian must be adept in performing the procedure.