

Diseases- Canine Herpes Virus- Is it a Death Sentence?

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Canine Herpes Virus In Neonatal Puppies - is it a death sentence?

By Rachel Peeples, DVM December 2013

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Canine herpes virus is not a disease that is talked a lot about. In adults it is a very mild, self-limiting disease that might cause some mild nasal congestion, runny eyes, sneezing and genital sores. It is very easily spread and most dogs that engage in any dog related activities (dog parks, shows, performance events, training classes, etc) have been exposed at some point. In neonates, however, it is a profoundly more serious disease. The lower internal body temperature of neonatal (less than 4 week old) puppies allows the virus to grow and thrive internally leading to severe viral pneumonia, encephalitis, gastroenteritis, carditis, etc (is infection and destruction of just about every important body tissue). Infected neonates may show some warning signs that are easily overlooked such as mild congestion and less than vigorous nursing. Most often what is noticed is a health puppy in the space of a few short hours becomes severely depressed, cold, and inappetent; and progresses to agonizing cries of pain, gasping for air, bloody froth from nose and mouth and then death. For anyone experiencing this disease in their precious puppies, there are few things more devastating and horrible than watching puppy after puppy meet this fate.

Historically, treatment options were nonexistent. As recent as my vet school days (2000) there was nothing proven successful in treating affected neonates - euthanasia was the recommendation to prevent suffering. Occasionally neonate would survive only to be plagued with profound neurologic and organ dysfunction. We have progressed in so many areas in the last decade - yet we still have nothing that can save these neonates according to most sources. Is this true?

Before telling my story - let me mention here that in some countries there is available a vaccine to give to expectant female dogs to generate antibodies to help protect the neonatal puppies. This would absolutely be recommended in areas where it is available. In addition, for disease control in general - careful attention to disease prevention is essential in any expectant canine household. While I will not address these in detail, these precautions are a given.

My story: in October 2012, my female Akita, Seiya, decided to get pregnant despite all the medical "facts" that said she could not - heats too close together (

December 27th I noticed a couple puppies seemed slightly congested when nursing but they were breathing fine, lung sounds were normal, energy level and vigor unchanged, nursing well, gaining weight so at the time nothing to be alarmed about or so I thought. December 28th I come home from work and noticed one of the largest and the most vigorous male puppies off in a corner. He was cold and had very raspy breathing. Despite every effort of warming, supplementation, etc he progressed in the space of a few short hours to an agonizing death. Examination of the other puppies revealed two very congested and lethargic pups, two moderately congested but otherwise normal puppies and two completely normal puppies. Examination of Seiya revealed classic genital sores consistent with canine herpes virus

infection. I could not get necropsy confirmation of the disease, however, because of the inability to preserve the body the 5 days until the laboratory reopened and tissue samples still be useable. Nevertheless, I am 100% convinced this was canine herpes virus.

Because of my teachings regarding this disease in neonates, I made the decision to euthanize all the puppies the next day. I refused to let them one-by-one succumb to such a horrific death. Out of desperation that evening I searched everywhere for any hope even though I knew it was in vain. But I was completely wrong - and I have never been so happy of that fact in all my life. I discovered an article about a litter of 8 Labrador Retriever puppies who were older - 4 weeks compared to my puppies age of 10 days -that lost 2 puppies but the remaining 6 survived with NO long-term problems(they followed them out to 2 years of age) using a medication called acyclovir (human anti-herpes virus medication). And a faint glimmer of hope was born.

I searched everywhere for a 24-hour pharmacy and found a Walgreens open in a town 50 miles away. Talked to a fantastic pharmacist who helped me and rushed my medication for the pups. I drove at 1 am (with an adult Akita in the car) there and back. I searched everywhere high and low for any and all recommendations for canine herpes virus and sick/weak neonates in general and started them all. The protocol I came up with is listed below, but I must preface this protocol by saying NONE of the medications used are approved for, studied, or in any way known to be safe for puppies this young. Everything was off-label, empirical usage. But at this stage- what did I have to lose?

My Protocol:

- (1) Raised the environmental temperature to 100F for the next 72 hours, to 95F for the next 4 days, then to 90F for the next 7 days, then to 85F for the next 10 days.
- (2) Monitored puppies temperature every 2hours - any puppy whose internal temperature was less than 101F was placed into the "hot box" - ie enclosed box with a heating pad - until the temperature went up to 101F.
- (2a)The point of (1) and (2) is that the canine herpes virus cannot thrive at temperatures over 100F. So if internal temperatures were over 100F the virus could not live and cause damage inside he puppies.
- (3) Allowed the puppies opportunity to nurse (no way the Akita mom was staying in 100F temps so had to bring her in) every 2 hours. If the puppies did not nurse they were given liver water. Liver water is made by taking a large piece of liver, placing it in cool water, and slowly heating it up. Do NOT let it boil. Once all the color is gone from the liver, strain the lieu id, give the liver to another dog, and feed the pups the liquid - 1-2 mL at a time.
- (4) Monitored closely for dehydration - if there's any hint of dehydration I gave 25 mL of subcutaneous fluid. The point of (3) and (4) is to maintain hydration and energy for the puppies to maintain body functions.
- (5) Gave each puppy an injection of Convenia- this is a long acting (two week) antibiotic in the same family as cephalexin, meaning a good choice for common secondarily infectors like staph and strep. This avoids having to give the antibiotics orally and risk further nausea and inappetance.
- (6) Gave each puppy acyclovir at 10 mg/kg every 6 hours. This is a medication specific to the human herpes virus. It inhibits viral replication and spread in the body. It comes as a 200mg/tsp suspension and it very inexpensive (enough medication for 6 Akita pups for almost a month costless than \$50).

The acyclovir was to “short-circuit” the herpes virus. The Convenia was to prevent secondary bacterial infections.

It was touch-and-go with the two sickest pups for 4 days - they lost weight, got very lethargic, and raspy breathing. But the other four pups never got any worse. And the two sickest puppies rallied and started getting better. By week 4 - they were all healthy, normal size and development for their age, and so far (they just turned a year old) no hint of any long-term residual complications. It was a very intense, hardly any sleep couple of weeks but I had 6 live, healthy puppies at the end of it. And while I cannot promise everyone will have the success I did - at least there is a chance herpes virus in neonates can NOT be a death sentence!

Comments:

- (1) In all reality I could have stopped the acyclovir after 2 weeks but at that point I was not taking any chances. Once they turned 5 weeks old and their thermoregulation was fully developed, I finally stopped this medication.
- (2) Even at their sickest point all my puppies kept nursing. If puppies are not nursing syringe feeding or tube feeding may be necessary.
- (3) Oral antibiotics may have worked just as well. I worry about absorption and side effects of the oral antibiotics hence the reason I used the Convenia.
- (4) I will be happy to discuss this protocol with your veterinarian anytime if he/she has questions or concerns. My email is rpeeples@planters.net and you can also find me on Facebook.

Notes from Karen Yeargain

The pup(s) need to get their temperature up higher.

Also, with the wet rear (usually diarrhea) and the crying, those would be my trigger to treat as though you were dealing with Canine Herpes Virus, even without a firm diagnosis. Antibiotics (Clavamox is a common choice), antivirals (acyclovir) and heat (getting the pups' core (rectal) temperatures up to 100F) is the ticket. Then, support with liver water, sub-q fluids, and the occasional drop or two of dexamethasone orally, if needed.

This CHV protocol is expanded on in the article in the group FILES. If the illness turns out not to be CHV, you have covered the worst-possible-scenario and the treatment would also be effective against a bacterial sepsis, if that is what were going on.