Identifying Linking Perimeters For Neonate Canine Mortalities

With the amount of litter fatalities approaching 20% of the total number of puppies born each year, it is pertinent to discover if there are any pre-determining factors, like for instance, in humans we have the Apgar scoring system that takes into account several important variables. Each variable is then individually scored on a 1-5 scale and finally all scored variables are added together for an overall score. If this overall score falls under a certain pre-determined number then the baby is flagged for more in-depth observation, and perhaps early intervention of a yet unseen problem. This is key to survival in the delicate system of a newborn. With 90%of all mortalities in neonate canines happening in the first 3 weeks of life and 60% of those in the first 10 days and with 20% of those those clustered at less than 24 hours of age, you can see the four "mortality humps" that happen. The first one at less than 24 hours of age, the second one at 3/4 days, the third one at 7-12 days and the last one at 14/16 days and if we look closer we can also see that two of these time frames also mirror the incubation time, for bacteria at 2-3 days and for viruses at 7-10 days incubation time, with a kill time after symptom onset varying greatly from a few hours to a few weeks, depending of multiples factors. This observations proves true with the majority of puppies lost at 3/4 days, as autopsy shows bacterial infection while those autopsied from puppies lost between 7-10 days often show viral infections as the underling cause and now with the primary cause of <24hours deaths being linked to identifiable factors we are continuing to win the battle for improving puppy fatality rates.

Low glucose levels and low birth weights, which also correspond to low glucose levels, overwhelmingly took the spotlight for indicating which neonatal canines may be at risk for higher mortality rates. Neonates that passed away within the first 24 hours all had glucose levels recorded within the first 8 hours of birth between 21-69mg/dl while puppies that lived past 21 days had recorded glucose levels in the first 8 hours recorded at 55-138mg/dl. Low glucose levels then lead to a lack of energy and slow body functions, which can lead to low temperature, this low temperature then slows the processes of the intestine preventing any new source of energy, or glucose from being absorbed. This is the vicious cycle of temperature and glucose in the neonate canine. Catching low glucose levels as soon as possible in neonates and supplanting them with a sugar water or nutritional syrup during the first 24 hours of life drastically increases the puppies chances of survival. Glucose levels taken at 24 hours that are below 94mg/dl are at an addition risk of death until 21 days of age.

Similarly birth weights of puppies that are 25% of the average birth weight of the litter have drastically decreased chances of survival, and puppies that do not gain 15-20% of their body weight each day for the first week should also be closely monitored and possibly supplemented, as they are also in a high-risk group. It should be noted that puppies of a larger size at birth also had higher glucose levels.

Overall the close monitoring of birth weights, temperature and blood glucose levels at birth and during the first 24 hours will give you the best opportunities to catch, treat, and provide you with the best chance of preventing any of these 1st twenty-four hour "hump" of mortalities in neonate canines. A second step to this process would be to then have the proper whelping set-up that could assist in your endeavors. You can preventing temperature loss, and even increase core temperature by having a heat lamp on for the puppies during birth, while they are suffering the most heat loss, simply from being born into a cooler environment all wet. You can also be prepared by having on hand a glucose vitamins supplant made specifically for neonates to increase low glucose levels in 'at risk' puppies. Also by monitoring any puppies that are less than 25% of the size of the littermate's to ensure adequate nursing time and possible supplementation if that is not possible can very well save lives.

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