

Treatment options for bacterial infection in the neonate canine

Bacteria is present in all healthy dogs and the environment, so puppies will be exposed to bacteria and have cultures started within a few hours of birth, and like with many things there is good with the bad. In general a healthy mom, with a good milk supply will provide a passive immunity to the puppies through her colostrum within the first 48 hours of birth. The absorption rates are best during this period due to the larger molecular size of colostrum being easier to absorb when the immature intestines have larger opening size, which is the first few days after birth. The intestines of delayed birth puppies may have already matured past the ideal absorbing rates for colostrum, which may in turn make these puppies more susceptible to common bacteria in the environment. But even once the intestine have close past the ideal absorption point, having the mothers milk will still coat the oropharynx and intestinal tract with antibodies providing at least some additional protection.

The most common forms of treatment will include antibiotics, but when dealing with the immature liver function, lower blood proteins *albumin, as well as lower body fat, with a poorly developed blood brain barrier the type of antibiotic used becomes more precise. The most common will be you antibiotics with the least side effects, and these would be the penicillins and the cephalosporin as they provide good coverage of many types of bacteria. The Aminoglycosides are very effective but immature renal function may effect dose so care should be taken with these Potentiated sulfonamides. The tetracyclines while also treating a broad range, they can cause pitting of the enamel of teeth and cannot be given with any type of calcium or magnesium, as these can interfere with absorption rates, but this means puppies cannot drink milk! The fluorquinones are excellent in older dogs but have a great risk of causing cartilage defects in young dogs, and puppies.

Along with antibiotic care a neonate will need to be kept in a clean, warm, stress free environment, which the mom provides a large part of, the constant licking and cleaning that a mom routinely preforms encourages a puppies survival reflex, and the stimulation encourages the puppy to struggle and search for a nipple. When a puppy is removed from the mother care, touch should be given to the puppy as often as possible to encourage its survival. Along with this there are several immune supportive vitamins that can be given to support immune health like vitamins C, echinacea, garlic, the B's, as well as superfoods which have higher natural levels of antioxidants and photochemicals. Only when immune support along with proper environmental conditions are not adequate for the increased well being of the pup should antibiotic care be administered, as antibiotics will kill both good and bad bacteria and some of the good guys are needed for proper health and getting rid of them can cause alternate effects.

References

Bacterial Infections in Young Puppies

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<http://www.lowchensaustralia.com/health/bacterialpups.htm>

Neonatal Immunology



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<https://www.immunology.org/public-information/bitesized-immunology/immune-development/neonatal-immunology>

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Ramada NC, Almeida Fde A, Cunha ML.

<https://www.ncbi.nlm.nih.gov/pubmed/24488378>

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Einstein (Sao Paulo). 2013 Oct-Dec; 11(4): 421-425.

doi: 10.1590/S1679-45082013000400003

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4880376/>

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<https://healthfree.com/foods-for-flu-boost-immune.html>