Eclampsia (Puerperal Tetany, Milk Fever, Hypocalcemia) in Dogs

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Eclampsia, also called milk fever or puerperal tetany, is an acute, life-threatening disease caused by low blood calcium levels (hypocalcemia) in dogs and more rarely in cats. The lactating animal is especially susceptible to blood calcium depletion because of milk production. The bodies of some lactating dogs and cats simply cannot keep up with the increased demands for calcium. Animals with milk fever lack the ability to quickly move calcium into their milk without depleting their own blood levels of this mineral.

Eclampsia most commonly occurs 1-3 weeks after giving birth, but it can even occur during pregnancy. Litters do not need to be large to cause eclampsia. Small breed dogs are at higher risk for eclampsia. The puppies themselves are not affected as the mother's milk appears to be normal during this period.

Signs of eclampsia

Eclampsia is a very serious disorder but fortunately the signs are fairly easy to recognize, especially when coupled with late term pregnancy and/or milk production. Initially, the affected dog will be restless and nervous. Within a short time, she will walk with a stiff gait and may even wobble or appear disoriented. Eventually, the dog may be unable to walk and her legs may become stiff or rigid. The dog may have a fever, with body temperature even over 105º F. The respiration rate (number of breaths per minute) will increase. At this point, death can occur if no treatment is given.

Treatment of eclampsia

If you suspect your dog has eclampsia, seek veterinary attention at once and prevent the puppies from nursing for at least 24 hours. Feed them with a commercial milk replacer. A veterinarian can confirm eclampsia with a blood test to determine blood calcium levels. Eclampsia can be rapidly corrected by your veterinarian through the use of intravenous calcium supplementation. The bitch is monitored carefully for heart rhythm irregularities that can occur. She will be continued on oral calcium supplements, if necessary.

If the dog responds well to treatment, in some cases, the puppies may be gradually allowed to nurse again. If your dog has had eclampsia, be sure to consult with your veterinarian before allowing the puppies to nurse again.

Prevention of eclampsia

Over-supplementation of calcium during pregnancy may increase the risk of eclampsia. There is a complex way the body maintains the proper amount of calcium in the blood. The body is constantly adding calcium to bones and then removing it, as needed. This is regulated by a hormone produced by the parathyroid gland, called parathyroid hormone. If a dog receives increased amounts of calcium during pregnancy, her body's production of parathyroid hormone greatly decreases. When the dog suddenly needs large amounts of calcium for milk production, the system is not ready to start removing it from the bone. This is because it takes some time for the parathyroid gland to start producing the hormone again. Because of the lack in parathyroid hormone, the blood calcium level suddenly drops, and produces the signs of eclampsia.

> Inappropriate calcium supplementation can predispose a bitch to develop eclampsia.

So, adequate amounts of calcium need to be given during pregnancy, but not enough to slow down the production of parathyroid hormone. This means calcium supplements are generally not recommended. Also, it is important for the calcium and phosphorus in the diet to be at the correct ratio of 1:1 (i.e.; 1 part calcium to 1 part phosphorus). Vitamin D must also be present in adequate amounts.

Once a dog has had milk fever, there is an excellent chance that she will also have it with future litters if preventive steps are not taken. Be sure to work closely with your veterinarian if your dog has had eclampsia in the past and is pregnant again.

In conclusion, it is of great importance for owners of pregnant or nursing dogs to be able to recognize the signs of eclampsia. If you feel your female dog is showing these signs, remove the pups to prevent further nursing and seek veterinary assistance at once.

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