

ECLAMPSIA

About the Diagnosis

Cause: Eclampsia is a sudden onset of potentially life-threatening symptoms resulting from low blood calcium (hypocalcemia) in the female dog (bitch) or female cat (queen) that has given birth in the preceding 3 weeks. In the bitch, eclampsia can occur at any time during lactation (nursing), but it is most likely to occur during the first 3 weeks of lactation, which begins within minutes after birth. Eclampsia occurs most commonly in small dogs with large litters, but it can occur in any bitch after whelping (giving birth). Symptoms of eclampsia include panting, pacing, restlessness, muscle stiffness and trembling, inability to rise, seizures, and coma. If eclampsia progresses to produce severe symptoms such as seizures and coma and is not treated immediately, death is possible. Eclampsia does not occur during pregnancy (before giving birth). Eclampsia occurs very rarely in cats.

The cause of eclampsia is a sudden transfer of circulating calcium from the mother's blood into the milk; while this is beneficial to the puppies, the mother may experience such a sudden drop in blood calcium levels (hypocalcemia) that eclampsia and the symptoms described above occur. There are many additional factors that contribute to this disorder. Maternal calcium is sacrificed for growth of the fetuses during gestation (pregnancy), and additional factors such as poor diet during gestation and lactation or excessive calcium supplementation during gestation can upset calcium balance and predispose to eclampsia. Offering reasonable amounts of a regular balanced diet and avoiding calcium supplementation during pregnancy (because these encourage the body to absorb only a small fraction of ingested calcium, leaving it totally unprepared for the massive calcium absorption needed once milk production and nursing begin) are important preventive measures that can be taken to reduce the risk of eclampsia.

Diagnosis: Eclampsia is usually diagnosed based on the onset symptoms hours, days, or a few weeks after giving birth, and the positive response to treatment with calcium gluconate injections in a lactating bitch or queen. Although hypocalcemia confirms the diagnosis, the time and equipment necessary for performing this blood test are not always available in the short time frame (minutes) during which treatment with calcium gluconate is often necessary.

Living with the Diagnosis

Eclampsia is a serious, potentially life-threatening condition, but it is a temporary condition that leaves no permanent aftereffects and requires no ongoing treatment if the initial stages are detected early and if adequate treatment (usually only needed for a few weeks at most) is provided. If your dog or cat has been diagnosed and treated for eclampsia, give medication at home exactly as your veterinarian prescribes it. Follow your veterinarian's instructions regarding hand-feeding the puppies or kittens if necessary, as a reduction in nursing may lessen the burden of milk production and decrease the amount of calcium being transferred from the mother's body into milk. Eclampsia can recur if nursing resumes and the dam's calcium level is not regulated.

Eclampsia can recur with subsequent litters. To prevent this disorder, it is important that the bitch or queen has a nutritionally balanced diet during pregnancy and lactation. To ensure that this diet is consumed, the puppies or kittens can be removed from the dam for a short period of time several times daily while she eats. Solid food can be gradually offered to the puppies and kittens (beginning the weaning process) beginning at approximately 3 weeks while they are still nursing. Calcium should **NEVER** be given to the dam during pregnancy because it can disrupt the normal balance of calcium in the body and, counterproductively, it actually makes eclampsia more likely.

TREATMENT

Eclampsia may progress quickly and can be fatal if it is not treated. Therefore, treatment should begin immediately. Calcium (gluconate) is administered intravenously, very slowly and with careful monitoring (because intravenous calcium excess is also potentially very dangerous) until clinical signs resolve. Low blood glucose (hypoglycemia) is treated with dextrose, which can be given by mouth or intravenously. If seizures do not respond to this treatment, an anticonvulsant medication may also be given. Depending on their age, kittens or puppies may need to be weaned and hand-fed to lessen the calcium drain of milk production.

When the bitch or queen is recovering from eclampsia and is stable, calcium should be supplemented at home. A carefully calculated and monitored dose of oral vitamin D may be needed to help the body absorb calcium. A well-balanced diet is important and may obviate the need for vitamin D supplementation. Several commercial diets are

available. Your veterinarian can discuss appropriate diets and supplements with you.

DOs

- Be aware, despite the excitement of the birthing process, that after birth (for up to 3 weeks) symptoms of irritability, muscle twitching, or any others described above may indicate the beginning of eclampsia.
- Do seek veterinary attention if any of these symptoms occurs; early intervention is a critical determinant of success and an important way of avoiding life-threatening eclampsia.
- Inform your veterinarian if your pet has ever been diagnosed with a medical condition or is taking medication.
- Give medication exactly as directed by your veterinarian, and if you are concerned about possible negative effects, discuss them with your veterinarian immediately rather than simply discontinuing the treatment.
- Feed your pregnant and lactating dog or cat a well-balanced diet. Be sure that they always have access to fresh water.

DON'Ts

- Do not give calcium or vitamin D supplements to your pregnant dog or cat since these actually "set the stage" for eclampsia.
- Do not allow the puppies or kittens to resume nursing if your veterinarian has indicated that they should not.

When to Call Your Veterinarian

- If you cannot keep a scheduled appointment.
- If you are unable to give medication as directed.
- If the dam's appetite decreases.
- If you are unable to hand-feed the puppies or kittens.

Signs to Watch For

- In the postpartum bitch or queen: panting, nervousness, awkward/stiff gait, muscle stiffness or trembling, inability to rise, seizures.
- During gestation or lactation: decreased appetite, weakness, vomiting.

Routine Follow-Up

- A follow-up visit often is necessary to measure the blood calcium level.

Additional Information

- Note that eclampsia in dogs and cats is not the same disease as in pregnant women. In women, this disease is associated with kidney problems and an inability to regulate blood pressure before birth. Both diseases have the potential for seizures in common but are otherwise extremely different.

*Printed from: Clinical Veterinary Advisor: Dogs and Cats (on 01 January 2011)
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