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## Management of Eclampsia in Bitches

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### Abstract

The study was conducted to evaluate the efficacy of intravenous administration of 10% calcium gluconate along with supportive therapy for the therapeutic management of eclampsia in bitches. A total 6 bitches of Spitz breed in 6-8 years age group with the history of whelping 7 to 16 days back, sudden start of pacing and hesitation to nurse, restlessness, nervousness and anorexia. The bitches were treated with 10% calcium gluconate along with supportive therapy i.e. 5% dextrose normal saline, phenobarbitone, prednisolone, and vitamin B<sub>1</sub>, B<sub>6</sub>, and B<sub>12</sub>. 5 (83.33%) bitches showed response of therapy on first day and complete clinical recovery after 3 days of treatment. However, 1 bitch was died during course of first day of treatment. So, intravenous administration of 10% calcium gluconate along with supportive therapy showed clinical efficacy in 83.33% bitches.

**Keywords:** Bitches; calcium gluconate; eclampsia

### Introduction

Eclampsia is an acute, life threatening disease caused by low blood calcium levels (hypocalcemia) in dogs and more rarely in cats. There is lesser documentation of hypocalcemia in dogs and cat as compared to cattle (Rowland *et al.*, 1972) [3]. It is more correctly called as puerperal as milk tetany. It is some time called as milk fever. The disease most commonly occurs in bitches 1-3 weeks after giving birth but the case are sometime also observed during gestation period. Smaller breed of dogs are more prone to the disease as compared to the larger breeds. The present study was undertaken to evaluate the efficacy of 10% calcium gluconate along with supportive therapy in the treatment of eclampsia in bitches.

### History and Clinical Observation

A total 6 bitches of Spitz breed in 6-8 years age group were presented to Government Veterinary Hospital, Deoranian, Baerilly, with the history of whelping 7 days to 16 days back, sudden start of pacing and hesitation to nurse, restlessness, nervousness and anorexia. The clinical examination revealed painting, muscles tremors, eye twitching, incoordination and unable to walk properly. All the affected bitches showed normal range of temperature (101-102<sup>0</sup>F), increased respiration and pulse rate. Two bitches showed ataxia, trembling muscles tetany and convulsive seizures.

### Diagnosis and Treatment

The condition was diagnosed on the basis of recording proper history, correlating the clinical observation and response to therapy. All the affected bitches were treated with slow intravenous administration of 10 -15 ml of 10% calcium gluconate on first day, Injection phenobarbitone @ 0.5 mg/ day, IM, for first day, Injection dextrose normal saline (5%) @ 5-10 ml/ Kg body weight for 3 days, injection prednisolone @ 5 mg/ day, IM for 3 days and injection Tribivet (B<sub>1</sub>, B<sub>6</sub> and B<sub>12</sub>) @ 2ml, IM for 3 days.

### Results and Discussion

Out of 6 affected bitches, 5 (83.33%) bitches showed response of first day of therapy and 1 bitch was died during course of treatment of first day by sudden rise of temperature up to 107<sup>0</sup>F. The 5 (83.33%) bitches showed complete clinical recovery after 3 days of therapy. The remaining 5 bitches showed normal behaviour and food and water intake became normal after 3 days of therapy. To prevent the relapse of disease, dietary supplementation of calcium

and vitamin D (Intacal pet) @ 10 ml, twice daily, orally for 15 days was recommended. Owners were advised to shift the puppies to milk replacer and weaning of all the puppies as soon as possible.

In the present study, 10% calcium gluconate was administered slowly by intravenous route. Eclampsia can be treated by a slow and careful intravenous injection of calcium solution. Generally, 5-10 ml of 10% calcium gluconate will provide sufficient calcium for a bitch weighing between 5-10 Kg (Pathan *et al.*, 2011) <sup>[2]</sup>. Intravenous infusion of dextrose normal saline (5%) provides quick energy supplementation to prevent the occurrence of low blood sugar. After only a few minutes of muscles spasm, the affected bitches will be thoroughly exhausted and rapidly available glycogen stored in liver and muscles can be depleted which cause the low blood sugar and trigger the seizure activity (Pathan *et al.*, 2011) <sup>[2]</sup>. Injection of phenobarbitone acts as a mild sedative in tremors and help in relaxing the muscles (Pathan *et al.*, 2011) <sup>[2]</sup>. In the present study corticosteroids prednisolone was administered as per recommendation of Chakraborty (2006) <sup>[1]</sup>. Administration of tribivet (B<sub>1</sub>, B<sub>6</sub> and B<sub>12</sub>) to improve and tone up the condition of animals. Dietary supplementation of calcium and vitamin D (Intacal pet) was useful to prevent the relapse of disease.

### **Conclusion**

In the present study, it was concluded that intravenous administration of 10% calcium gluconate along with supportive therapy i.e. 5% dextrose normal saline, phenobarbitone, prednisolone, and vitamin B<sub>1</sub>, B<sub>6</sub>, and B<sub>12</sub> showed 83.33% recovery rates in bitches.

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