Study on Chocolate Poisoning in a Dog - A Case Report
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Abstract
A two years old German shepherd male dog was presented at Veterinary Dispensary, South Gate, Madurai with the clinical symptoms of vomiting, diarrhea, frequent urination, dehydration, restlessness and hyperactivity. Clinical examination of the dog revealed an elevated temperature of 40.9°C, heart rate of 157 beats /minute (tachycardia) and respiratory rate of 51 breaths /minute. Further, history revealed that animal had consumed excess amount of chocolate four hours ago. Based on the history and clinical observations, animal was treated with Inj.diazepam @ 1.0mg/kg b.wt slow IV , Inj Ringers Lactate @ 10ml/kg b.wt IV , Inj.Metaclopromide @ 0.4mg/kg b.wt IM, Inj.Ranitidine @ 1 mg/ kg b.wt IM along with supportive therapy for three days consequently. Animal had an uneventful recovery. The paper presents the successful treatment of Chocolate Poisoning in German shepherd dog.

Key words: German shepherd, Chocolate, Ringers Lactate and Diazepam.

Introduction
The clinical symptoms observed in the chocolate poisoning are due to presence in the chocolate of theobromine and caffeine. Chocolate is derived from the roasted seeds of the plant Theobroma cacao and its components are the methylxanthine alkaloids theobromine and caffeine. Caffeine is a methylxanthine whose primary biological effect is the competitive antagonism of the adenosine receptor. Normal consumption of caffeine was not associated with risk of atrial fibrillation or flutter. Sympathomimetic effects, due to circulating catecholamines cause the cardiac manifestations of caffeine overdose toxicity, produce tachyarrhythmias such as supraventricular tachycardia, atrial fibrillation, ventricular tachycardia, and ventricular fibrillation. The level of theobromine and caffeine in chocolate varies between the type of chocolate, the brand and the fact that the natural occurrence of these substances in cocoa beans is variable. Dogs metabolise theobromine very slowly - it can stay in dog's bloodstream for up to 20 hours. During that time it interferes with the body's functioning mainly stimulating the central nervous system and affecting the heart and kidneys. This paper describes a case of chocolate poisoning and its successful treatment in a German Shepherd.

Case History and Observation
A two years old German Shepherd male dog was presented at Veterinary Dispensary, South Gate, Madurai with the clinical symptoms of vomiting, diarrhea, frequent urination, dehydration, restlessness and hyperactivity. Clinical examination of the dog revealed an elevated temperature of 40.9°C, heart rate of 157 beats /minute (tachycardia) and respiratory rate of 51 breaths /minute. Further, history revealed that animal had consumed excess amount of chocolate five hours ago. Based on the history and clinical observations, case was diagnosed as chocolate poisoning.

Treatment and Discussion
Based on the history and clinical observations, the animal was treated with intravenous infusion of Ringer’s Lactate @ 10ml/kg b.wt IV and Diazepam at the dose rate of 1.0 mg / kg, slow i.v Inj.Metaclopromide @ 0.4mg/kg b.wt IM, Inj.Ranitidine @ 1 mg/ kg b.wt IM along with supportive therapy for three days consequently. The animal was monitored for next three days for improvement in clinical signs and was kept under i.v. Fluid therapy with Ringer’s Lactate for dehydration. Animal showed improvement following i.v. infusion and completely recovered from toxicity symptoms 72 hours after treatment. The cocoa tree contains two naturally occurring substances - theobromine and caffeine - both of which are toxic to dogs. Cocoa beans contain theobromine a higher concentration than caffeine. The lethal dose for theobromine is between 100mg to 200mg per kg of bodyweight; the lethal dose for caffeine is the same. However, severe symptoms of theobromine poisoning may be evident at much lower doses.

The mixtures of theobromine and caffeine have the potential to be developed into a selective, effective and socially acceptable toxicant for the control of pest coyotes. According to the American Society for the Prevention of Cruelty to Animals’ Animal Poison Control Center, mild signs of poisoning occurs in animals ingesting 20 mg of theobromine and caffeine per kg of bodyweight, severe signs are seen at 40-50 mg/kg, and seizures occur at 60 mg/kg. How a dog reacts to swallowing chocolate will be a function of his size, general health, sensitivity to theobromine and caffeine, and the type and quantity of chocolate eaten. Gartrell and Reid reported chocolate poisoning in Inquisitive wild parrot. Thus the present paper reports the successful treatment of chocolate poisoning.
Reference