ABDOMINAL MASS ASSOCIATED VAGAL BRADYCARDIA IN A DOG - A REPORT

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[Received: 01.6.2015; Accepted: 01.12.2015]

A six year old male dog was referred to the University Veterinary Hospital, Mannuthy, with the history of episodes of fainting and reduced appetite for the past one month. A tentative diagnosis of epilepsy based on the basis of clinical findings. The dog was under treatment for epilepsy with phenobarbital for about three weeks, but remained refractory and hence referred.

History revealed fainting episodes on a daily basis and were associated with exertion. On examination, the animal was found to be dull, able to walk around.

Physical examination revealed bradycardia of 47 beats per minute. The temperature (102.2⁰F) and respiratory rate (28 breaths per minute) were normal. The total WBC Count and differential count, serum creatinine (1.01 mg/dl) and serum SGPT (44 U/L) values were within normal limits. Electrocardiogram revealed bradyarrhythmia (Fig.1). Ultrasonographic evaluation of the abdomen revealed a moderately echoic mass in the anterior abdomen (Fig.2). Echocardiography revealed no abnormalities except an apparent bradycardia.

Fig. 1. Bradyarrhythmia . Paper speed 25mm/s, Amplitude 1cm= 1mv

Fig. 2. Moderately echoic abdominal mass on ultrasound scanning
Based on the clinical, electrocardiographic and ultrasonographic findings, a diagnosis of abdominal mass associated vagal bradynrrhythmia was made. Exploratory surgery was advised. However, the owner did not gave the consent. The animal was put on a treatment schedule with atropine sulphate @ 0.03 mg/kg intravenously as required for five days with a referral to the local veterinarian to report based on the treatment instituted.

When presented on day 6, it was reported that clinical improvement in terms of general alertness and a mild increase in food intake was seen by day three of treatment. The local Veterinarian reported that an increase in heart rate was recorded associated with atropine treatment with 68-73 beats per minute within 10 minutes of administration and the animal was more responsive after administration of atropine. The same treatment was continued for 10 more days. Later on, the animal was put on oral theophylline @20 mg/kg twice daily for a period of 10 days. But on day seven of treatment, the patient did not show any improvement and the animal had vomiting on day five and six of treatment. And the animal was put on atropine treatment schedule again and considerable improvement was reported. However, owners discontinued the treatment. The animal died about three months after it was first presented for treatment.

Syncope in dogs is associated with a variety of causes which could be cardiac or non cardiac in origin as also reported by Miller (2011). Bradycardia in the present case can be considered as a secondary sinus bradycardia as there is an apparent cause in the form of an abdominal mass. Sinus bradycardia with no apparent cause is treated only if it is severe. Atropine sulphate @ 0.02 -0.04 mg/ kg intravenously or intramuscularly is used for the management also mentioned by Ramsey (2008). Increase in the heart rate to values between 50-100 per cent of the pre treatment value as in the present study is indicative of a positive response. Oral agents for management of bradycardia are not preferred by many clinicians because it is less effective and the side effects are apparent in many cases also narrated by Kraus et al. (2008). In the present case, treatment with atropine and the removal of the abdominal mass could have resulted in considerable improvement.

References