MANAGEMENT OF INTERSTITIAL PNEUMONIA WITH CARDIAC ARRHYTHMIA IN A DOG

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A nine years old male Labrador retriever dog was brought to the clinic with symptoms of dry coughing since the last three days. The c-arm report revealed interstitial pneumonia and cardiac arrhythmia was detected in the ECG. The dog was treated with an antibiotic Azithromycin and a cough formula containing Amylmetacresol and Dextromethorphan. After five days of treatment the symptoms subsided. The administration of the antibiotic was stopped after five days of treatment. However, treatment with the cough syrup was continued for another three weeks. The electrocardiogram was again recorded after a month which revealed normal cardiac rhythm.
Key words: Cardiac arrhythmia, Pneumonia, ECG.

Introduction

Interstitial pneumonia is a form of lung disease characterized by progressive scarring of both lungs. The scarring (fibrosis) involves the supporting framework (interstitium) of the lungs. Cardiac dysrhythmia (also known as arrhythmia or irregular heart beat) is any of a group of conditions in which the electrical activity of the heart is irregular than normal. The etiology of cardiac arrhythmia could be of cardiac or non-cardiac origin. A case of cardiac arrhythmia of non-cardiac origin i.e. due to pulmonary interstitial pneumonia is reported in the present clinical report.

Case History and Observations

A nine years old male Labrador retriever dog weighing 32 kg was presented to the Teaching Veterinary Clinical Complex of College of Veterinary Science and Animal Husbandry, O.U.A.T., Bhubaneswar with the history of dry cough since three days. The owner reported that the dog was restless and showing symptoms of respiratory distress since five days. The rectal temperature was recorded to be 102^0F. The pulse rate was recorded to be 48 per minute and the respiratory rate was 97 per minute. The total leukocyte count (TLC) was 20,400 per cu. mm of blood. The animal was advised for C-arm and the electrocardiogram was recorded with the animal positioned in right lateral recumbency with a paper speed of 25mm/sec and sensitivity of 1 (1cm = 1mv). The report of the C-arm revealed interstitial pneumonia (Fig 1) and cardiac arrhythmia was extrapolated from the electrocardiogram with the detection of a pause during normal regular sinus rhythm (Fig 2).

Fig 1. C-arm showing

interstitial pneumonia

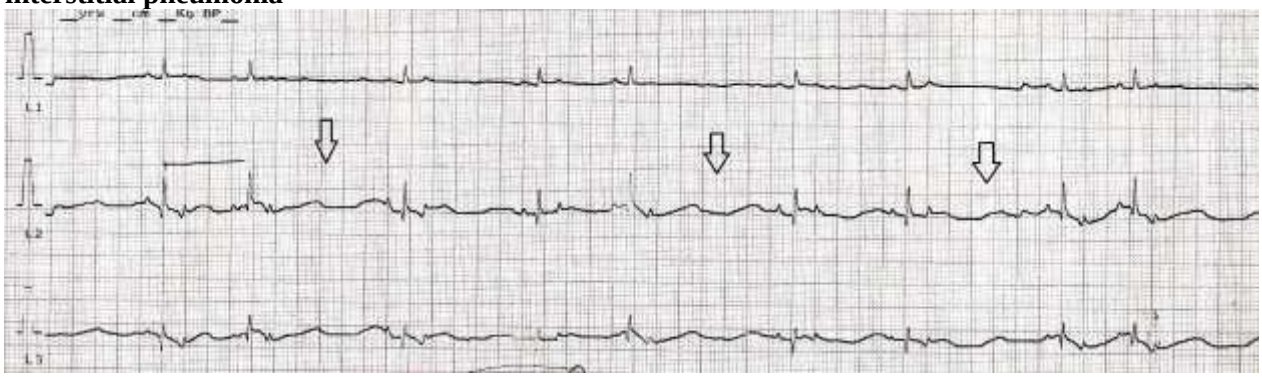

Fig 2. ECG before treatment (Arrow indicating the pause)

Treatment and Discussion

The animal was administered tablet Azithromycin @ 5 mg per kg body weight q24 hr orally and a cough formula containing Amylmetacresol and Dextromethorphan @5ml q12 hr orally for five days. The administration of the antibiotic Azithromycin was stopped after five days of treatment but the cough syrup was administered for another three weeks at the same dose rate. The possible underlying causes of a cardiac arrhythmia can be broadly classified into primary cardiac diseases and non-cardiac diseases (Tilley, 1992). In the vast majority of situations in which a non-cardiac disease has been found in association with an arrhythmia, treatment directed towards the condition will lead to a resolution of the arrhythmia (Martin, 2007). The irregular spacing between the 'R' waves of ECG was the diagnostic criteria of cardiac arrhythmia. All other ECG parameters were normal. The features of the C-arm including honey combing, reticular opacities, extensive ground glass opacities confirmed interstitial pneumonia in the animal (Lynch *et al*, 2005). The TLC value of the dog much above the normal range of 9000 to 13000 per cu. mm of blood is suggestive of probable bacterial infection (Reece, 2004). Therefore an antibiotic (Azithromycin) specific for treating respiratory tract infection was prescribed. Dextromethorphan is an antitussive cough suppressant drug and Amylmetacresol is an antiseptic used to treat infections of the mouth and throat. Since cardiac arrhythmia can also be of non-cardiac origin, the initial treatment was directed towards the treatment of interstitial pneumonia. The symptoms gradually disappeared by the fifth day of treatment. The pulse and respiration rate was 60 and 30/min, respectively. The TLC also dropped down to 12,000 per cu. mm of blood. ECG was recorded again after a month and it was found that the normal cardiac rhythm has restored (Fig 3).

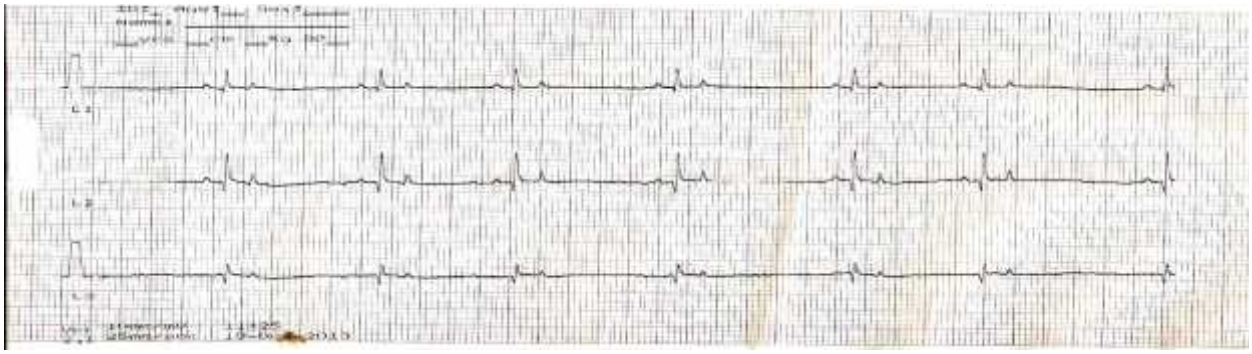

Fig 3. ECG after treatment

Summary

In this case a non-cardiac disease has been found in association with cardiac arrhythmia. However, treatment directed towards the same disease led to the resolution of the arrhythmia.

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