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Chollada Buranakarl

Kris Angkanaporn

Phiwipa Kamonrat

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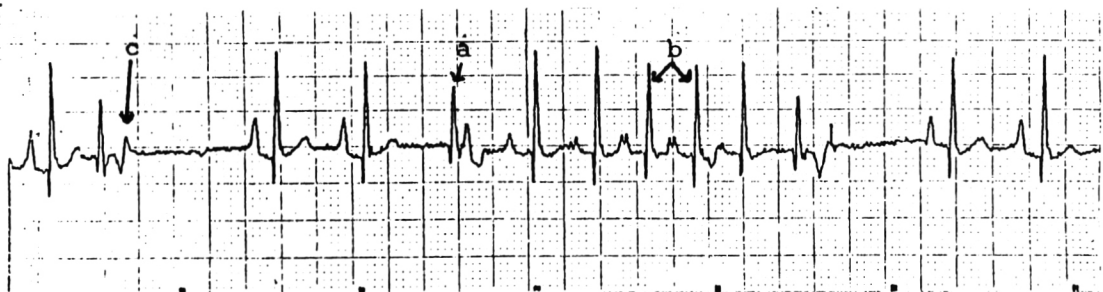
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ECG Quiz

Chollada Buranakarl* Kris Angkanaporn* Phiwipa Kamonrat**



(Continue)

Paper speed 25 mm/sec

Calibration 1 mV/cm

This lead II strip was recorded from a 15 year-old male-castrated mixed breed dog weighing 17 kg, with a history of chronic otitis externa. A history of 5 months chronic obstructive pulmonary disease was reported with symptoms of coughing and dyspnea. Physical examination revealed cardiac

arrhythmia. Serum biochemical values were normal apart from a slightly elevated plasma ALT. A modified Knott's test gave a negative result.

A thoracic radiograph revealed whole heart enlargement with pulmonary edema in the hilar region. An elevated trachea was also

* Department of Physiology, Faculty of Veterinary Science, Chulalongkorn University

** Department of Surgery, Faculty of Veterinary Science, Chulalongkorn University

noted. When the first ECG was performed, the results showed both atria to be enlarged. Enalapril and the diuretic, furosemide were given for a period of 2 months before this latest strip of ECG was recorded.

The sinus wave was analyzed as follows;

P duration	= 0.07 sec
P amplitude	= 0.50 mV
QRS duration	= 0.08 sec
QRS amplitude	= 1.5 mV
PR interval	= 0.14 sec
QT interval	= 0.26 sec.
Mean electrical axis (frontal)	= + 78°

Sinus rhythm with atrial premature complexes and paroxysmal supraventricular tachycardia.

Heart rate varies between 105 to 220 beats/minute. The QRS complexes are preceded with no P (a) or P' (b) waves and with

different shapes in both P and QRS. The QRS complexes following the P' wave resemble the QRS complexes of the sinus wave, indicating that the arrhythmia are atrial premature complexes in origin. The appearance of three or more consecutive atrial premature complexes is termed paroxysmal atrial or supraventricular tachycardia. The last P' wave (c) is not conducted to the ventricle. The conduction delay most likely occurs in the AV node followed by the temporary cessation of premature ectopic beats. The increase in amplitude of the P wave and the widening of both the P and QRS waves suggested whole heart enlargement. The thoracic radiographs confirmed congestive heart failure with a typical pulmonary edema at the hilar region which could be the cause of the chronic cough. Dilated cardiomyopathy or chronic mitral valvular insufficiency might be the cause. Digoxin or a combination of digoxin and diltiazem is a drug of choice for this patient.