The Thai Journal of Veterinary Medicine

Volume 29
Issue 3 *September, 1999*

Article 7

9-1-1999

ECG Ouiz

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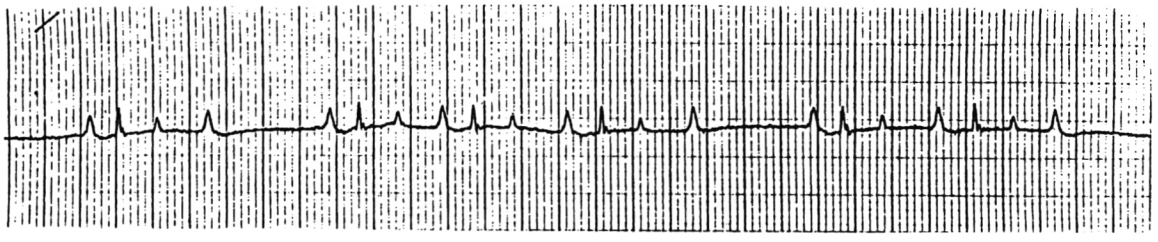

Paper speed	25	mm/sec
Calibration	1	mV/cm

This complex lead II ECG was obtained from a 16 year-old male Chow Chow weighing 23 kg, with a history of tachypnea, lethargy, weakness and exercise intolerance over the last few months. The biochemical values of liver and kidney panels were normal as was the complete blood count. The dog had never been tested for heartworm infestation. A thoracic radiograph revealed right side heart enlargement with enlarged pulmonary arteries. A mild pleural effusion was noted. Abdominal radiograph showed hepatomegaly. Fat redistribution and deposition was evidence as the dog was obese.

Heart rate	= 60	beats/minute
P duration	= 0.08	sec
P amplitude	= 0.35	mV
ORS duration	= 0.04	sec
ORS amplitude	= 0.35	mV

Mean electrical axis (frontal) = +69°

Please make your interpretation before turning to the next page.

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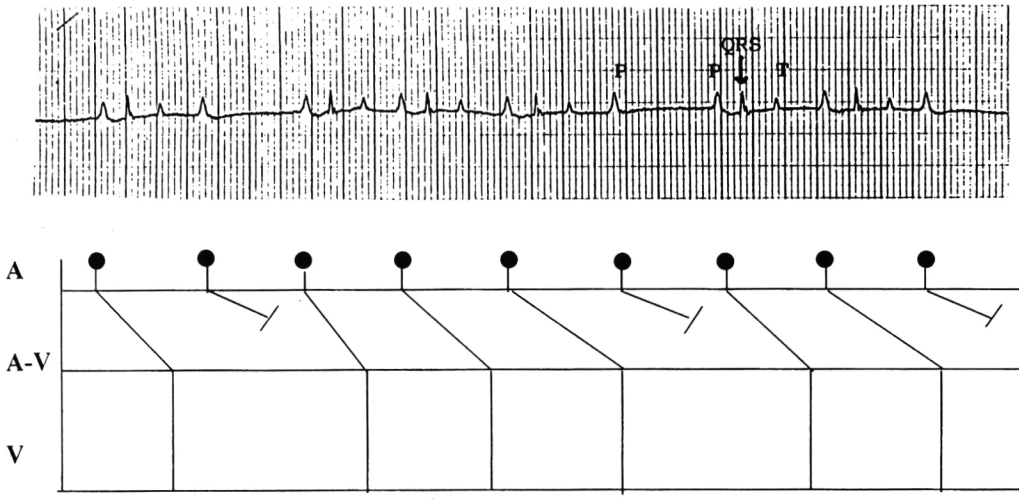
Sinus rhythm with Mobitz type I (Wenckenbach) second degree atriventricular block



An AV ladder diagram was used to explain the origin of the impulse, the rate of impulse transmission and the pathway where the impulse is conducted. The lines A and V are drawn to coincide with the beginning of the P wave and the QRS complex. The line drawn between A and V indicates AV conduction. The slope of the line at A-V indicates the rate of impulse conduction. The site of impulse formation is represented by a dot. The heart rate was variable. Notice the progressive lengthening of the two PR intervals before the blocked P wave (not followed by a QRS complex). Following this blocked P wave, the PR interval shortens to its original value. The duration of the PR interval can also be determined by using the ladder diagram. The more time that is required to transmit the impulse passing the AV junction, the less steep the slope of the A-V line. Type I AV block usually occurs in the AV node and is responsive to atropine treatment. The cause of the PR interval prolongation may come from a fluctuation in the parasympathetic stimulation of the AV junction. Dirofilariasis should be checked since the thoracic radiograph showed right heart enlargement with enlarged pulmonary arteries. The ECG waves in this dog had a low amplitude which may be related to low electrical conductance from pleural effusion and large body fat deposition. Echocardiography should be performed to determine whether the dog had a right sided sided heart failure problem.