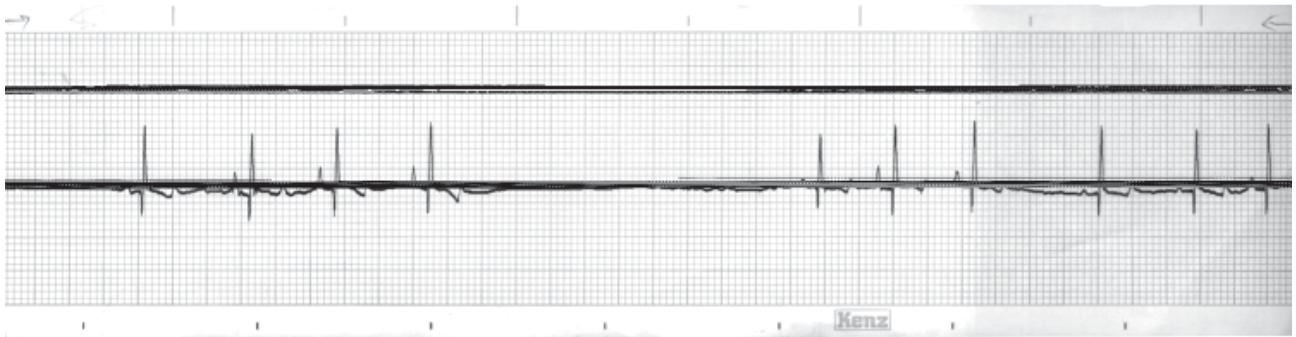


ECG Quiz

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This lead II ECG strips was recorded from a 13 years old, male, mixed breed dog, weighing 24 kg that was referred to the Chulalongkorn University Small Animal Hospital with syncope. Clinical examination revealed pink mucous membrane with a capillary refilling time of 1-2 sec. The dog had Babesiosis and Ehrlichiosis infection and was treated with doxycycline and berenil.

A thoracic radiograph showed normal heart size with interstitial and bronchial infiltration of lung. Recent serum chemistry profiles were within normal limits. Thrombocytopenia ($86 \times 10^3 \text{ cells}/\mu\text{L}$) and slight leukopenia ($5,300 \text{ cells}/\mu\text{L}$) were found.

Please answer before turning to the next page.

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Interpretation

Sinus arrhythmia with sinoatrial pause

The heart rate is approximately 80 beats per minute. Sinus node disease may be a cause of this arrhythmia known as sick sinus syndrome. The arrest or pause was characterized by long pauses without P-QRS-T complexes. Sinus arrest occurs when the electrical discharge from the sinus node is absent while the block occurs when a sinus impulse is generated but then is blocked before leaving the sinoatrial node. The pauses

are twice or greater than twice (in this case it was three times) than the normal R-R interval. The diseases which may associate with abnormal vagal tone may be a cause. The presence of long pause corresponds to the history of syncope episode. Atropine or propantheline may be drugs of choice. If the episode of syncope persists, implantation of cardiac pacemaker is required. The lack of escape beat (either junctional or ventricular in origin) at the end of long pause may indicate the AV node disease as well. Without the normal physiological response of escape beat, the poor prognosis was provided.