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ECG Quiz

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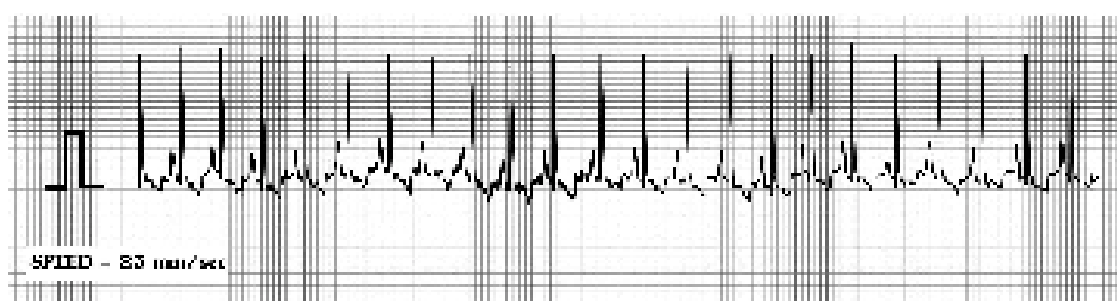
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ECG Quiz

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A two years old, male, Poodle weighing 2.8 kg was presented to the hospital in cardiology unit for cardiac consultation. He was diagnosed of heart disease from private clinic a month earlier. The dog was received Heartguard® regularly for heartworm prevention. He also had the periodic vomiting in the morning. From thoracic auscultation, the dog had high heart rate and moist lung sound. Blood collection revealed normal kidney and liver panels and normal complete blood count. The SNAP test was also negative for heartworm. The thoracic radiograph was performed and the results showed right heart enlargement and mild interstitial pattern

of lung fields. The ECG was performed and the record of lead II was shown above

P wave amplitude	0.5	mV
P wave duration	0.04	second
PR interval	0.08	second
QRS amplitude	2.1	mV
QRS duration	0.04	mV
QT interval	0.14	second

Please make your interpretation before turning to the next page.

Sinus tachycardia with tall P wave amplitude

The heart rate is 215 beats per minute. The dog was excited during ECG measurement. The P wave amplitude which is higher than normal (0.4 mV) is termed 'P pulmonale' and is one of a landmark for right atrial enlargement. However, it is usual to see the high P wave amplitude during high heart rate which is due to higher sympathetic outflow. The slight differences in P wave amplitude affected by respiration will be an indication of insignificant P wave amplitude. In this case, the tachycardia was marked while the heart sound

was normal. The term 'P pulmonale' may make the clinician confused about whether this dog had anatomic abnormality of right atria. Thus, P pulmonale is a meaningless term in dogs and cats. It should be point out that there are better ways to diagnose heart size such as the radiography and echocardiography. The thoracic radiograph showed right heart enlargement and abnormal lung fields. The echocardiography should be performed to confirm this finding. The dog was given angiotensin converting enzyme inhibitor and antibacterial therapy and no clinical symptom was found thereafter.