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## ECG Quiz

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## ECG Quiz

**Chollada Buranakarl\* Kris Angkanaporn\***



This complex lead II strip was recorded from a 13 year-old female Chow Chow, weighing 18 kg with a history of exercise intolerance, syncope and panting. A physical examination revealed the dog had an abdominal enlargement. Both the complete blood count and the serum chemistry were within normal limits.

A thoracic radiograph revealed whole heart enlargement with an alveolar pattern in all lung lobes. In addition, hepatomegaly and spondylosis of the T12 vertebrae and all the lumbosacral vertebrae were found.

Please make your interpretation before turning to the next page.

**Sinus arrhythmia with a 2 : 1 second-degree AV block**

The atrial heart rate was 110 beats / min while the ventricular rate was 55 beats / min with a ratio of 2:1. The intermittent P waves, not followed by QRS complexes, are characteristic of a second-degree AV block. The QRS complexes are the normal morphology for a conducted P wave. A prolonged P-R interval of the conducting impulse was also seen (0.28 sec). Some P waves can be hidden in the preceding T wave (arrows) which may cause

misdiagnosis. The diagnosis was made by the separation of the P and T waves in the first half of the tracing. The change in the P-P interval is compatible with sinus arrhythmia. Signs of exercise intolerance and syncope may occur if the AV block is advanced. Treatment with anticholinergic agents or sympathomimetic drugs, including a bronchodilator may not be successful and in advanced cases, an artificial cardiac pacemaker is required.