Interesting Electrocardiogram

EVALUATION OF Q WAVES
IN THE INFERIOR LEADS

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This is a 40-year-old man who, on a routine medical checkup, was told his electrocardiogram (Figure 1) was abnormal and suggestive of an old inferior myocardial infarction. He had a history of recurrent but atypical chest pain. This pain was sharp, started in the back and radiated to the anterior chest and, rarely, to the left arm. This pain might last for days. The physical examination was normal as were the routine chemistries, blood count, urinalysis and chest x-ray. It was decided to do a stress test with a thallium scan and this was normal. An echocardiogram was normal. Finally an angiogram was done as it was felt the electrocardiogram needed clarification. The angiogram showed a completely normal coronary artery circulation and a normal left ventricle. There was no myocardial infarction.

In evaluating the electrocardiogram (Figure 1) there are, of course, prominent initial negative waves in leads II, III and AVF. However, the short PR was missed. Once this short PR is identified (it is best seen in AVL) the wide QRS can be read – see lead II where PR = 0.10 seconds and QRS = 0.11 seconds. Lead I has a subtle delta wave. This tracing, therefore, is a somewhat subtle example of pre-excitation of the WPW type with negative delta waves in the inferior leads which mimic Q waves.1 Obviously the insurance rating of this man (who has not had any bouts of arrhythmias) can be very satisfactory. An interesting case with similar pseudo-Q waves in the inferior leads can be found on the next page.

Reference


Figure 1. Q waves. There are prominent initial negative waves in leads II, III and AVF, however, the short PR was missed.