ECG CLINIC

"Indigestion?"

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Vignette

The electrocardiogram (ECG) shown in Figure 1 was taken in a 44-year-old patient complaining of retrosternal and epigastric discomfort ("like indigestion").

Question

What is your electrocardiographic interpretation?

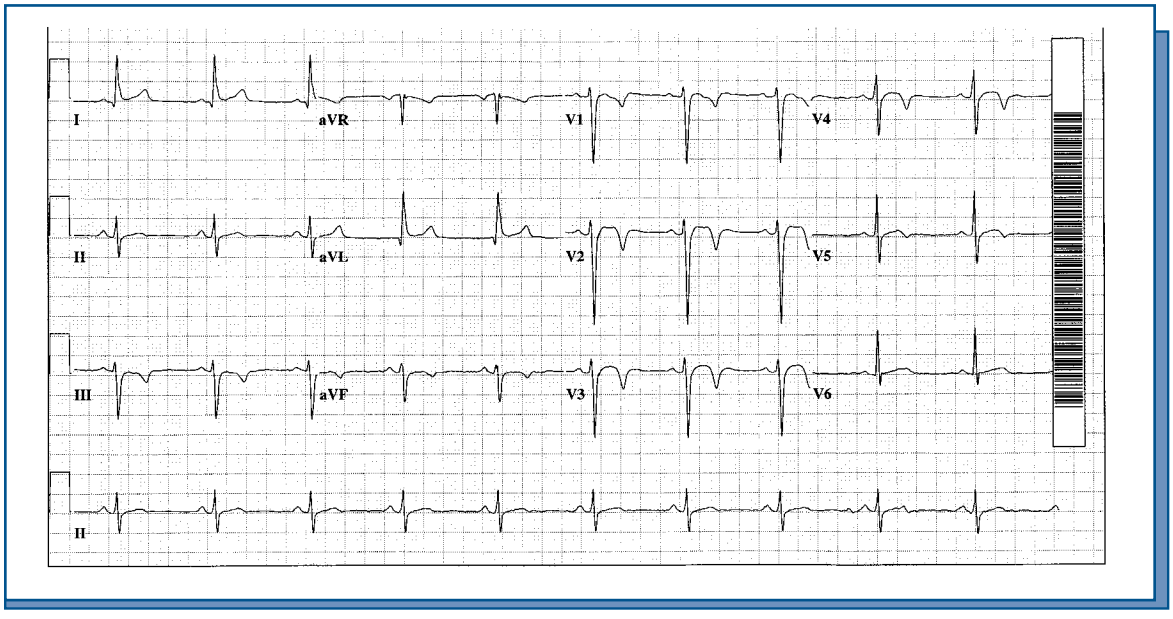

Figure 1

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Answer

The conspicuous abnormality shown by this ECG is the inversion of the T-wave in leads V1 through V4. It is also appreciable in leads III and AVF. Close inspection of the ST-segment shows elevation in leads V2 through V4. This association of ST-segment elevation with terminal inversion of the T-wave is highly specific of disease of the proximal left anterior descending coronary artery and is indicative of severe ischemia, injury or non-transmural necrosis of the interventricular septum. Because this territory includes the inferoapical region of the left ventricle, ischemic changes in this territory may be reflected in some of the "inferior wall leads," namely II, III and AVF.

T-wave inversion not accompanied by ST-segment elevation is sometimes seen in precordial leads V1 to V3 in normal individuals, especially in black patients. It is not associated with ST-segment elevation. On the other hand, isolated ST-segment elevation with a configuration of a recumbent italic "S" may be found in precordial leads V1 to V3 of normal individuals, especially if there is increased amplitude of the QRS complexes in the same leads. However, it is not accompanied by terminal inversion of the T-wave. In all cases, electrocardiographic changes should be viewed in light of the patient's history and other findings. Reference to previous electrocardiograms may be helpful. Dx