

Tough ECGs! Subtle manifestations of cardiac ischemia

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Dr. Mattu's first lecture deals with subtle ECG manifestations of ACS (abnormalities that are not necessarily well published in the general literature, but they are published in the ECG literature).

Among other pearls, Dr. Mattu will explain how T-wave abnormalities often appear in the setting of ACS prior to overt ST-segment changes. For example, terminal T-wave inversion in the mid-precordial leads is highly predictive of critical stenosis in the proximal LAD artery. Additionally, new upright tall T-waves in lead V1 or isolated new T-wave inversions in lead aVL may predict impending STEMI. Physicians should beware of the ECG computer interpretation in each of these cases--the computer often reads these findings as non-specific or even normal.

In a lecture about "unrecognized killers in emergency cardiology" Dr. Mattu expounds on, among other topics, how syncope in young patients without prior known cardiac disease is usually considered benign, and extensive cardiac workups in these patients are often deferred. However, recent literature, he explains, has focused attention on some deadly cardiac syndromes that cause syncope in young, otherwise healthy patients, which are often unrecognized on electrocardiography. Physicians should look for ECG evidence of Brugada syndrome (right bundle branch block pattern with STE in leads V1-V2), hypertrophic cardiomyopathy (large amplitude QRS complexes with deep narrow Q-waves in the lateral leads), and prolonged QT in every patient with syncope.

Dr. Mattu is the EM residency program director and an associate professor of emergency medicine at the University of Maryland Medical Center.