



Correspondence

The role of echocardiography in acute myocardial infarction

Dear Editor in Chief,

Recently, I received an important paper from your valuable journal on ST-elevation acute myocardial infarction (STEMI), in which the role of echocardiography in STEMI was not depicted completely.¹ I would, therefore, like to take this opportunity to briefly explain the role of echocardiography in STEMI in the new era for publication in your esteemed journal.

Echocardiography is the method of choice for the visual assessment of both segmental and global myocardial functions.² This noninvasive method provides facilitated and “at-a-glance” estimation of an impaired blood supply to myocardial tissue. Currently, in the underdeveloped world, every chest pain unit and emergency room is outfitted with echocardiography or state-of-art hand-held echocardiography equipment.

In acute STEMI, echocardiography is applicable for the evaluation of wall motion abnormalities. In other words, an assessment of the wall motion score is essential at the first step. Patient risk stratification, localization of infarction, and assessment of the infarction extent give clues to the cardiologist as to the patient's vascular status. In addition, infarction of the right ventricle is easily assessed using echocardiography. Doppler echocardiography provides valuable information on the hemodynamic status of the patient, which has huge therapeutic implications. Left ventricular thrombi, infarct expansion, true aneurysm formation, post-infarction pericarditis, pericardial effusion, and tamponade are also detectable by echocardiography. In the case of ventricular clot formation, contrast echocardiography is also helpful.³

Echocardiography has advantages regarding the detection of STEMI-related complications. Early recognition of the complications of STEMI is associated with better patient survival if proper interventions are applied. Among mechanical complications, ventricular free wall rupture, pseudoaneurysm formation, and ventricular septal rupture are among the most dreading complications which may lead to shock.³ Another ominous complication rapidly detectable by echocardiography is acute mitral regurgitation secondary to papillary muscle rupture.⁴ Acute dynamic left ventricular outflow tract obstruction is another entity which can be uncovered by echocardiography.⁵

Vis-à-vis the long-term complications of STEMI, echocardiography yields valuable information on the development and progression of ischemic mitral regurgitation.⁶ Dobutamine stress

echocardiography highlights viable myocardial tissue in the assessment of hibernating viable myocardium.⁷

Given its applicability and reliability, the noninvasive modality of echocardiography should be utilized in all patients with STEMI. Indeed, the role of echocardiography should be accentuated as the cornerstone for all STEMI guidelines.

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