

The c- reactive protein to troponin ratio enhances the differentiation of perimyocarditis from acute myocardial infarction

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Differentiating perimyocarditis from acute myocardial infarction (AMI) is frequently difficult. Perimyocarditis is primarily an inflammatory disease associated with high C-reactive protein (CRP) and relatively low elevated troponin concentrations, while AMI is characterized by the opposite. We surmised that the CRP/troponin ratio on presentation could improve the differentiation between these two clinical entities.

We evaluated the CRP/troponin ratio on presentation among patients consecutively included in a large hospital registry that included 1898 consecutive patients comprising 1025 ST-elevation myocardial infarction (STEMI) patients, 518 Non-STEMI (NSTEMI) patients, and 355 patients diagnosed as perimyocarditis. CRP and troponin were sampled on admission and their ratio was assessed against discharge diagnosis. ROC analysis of the CRP/troponin ratios evaluated the diagnostic accuracy of perimyocarditis against STEMI with or without NSTEMI.

Median admission CRP/troponin ratios were 84, 65, and 436 mg × ml/liter × ng in STEMI, NSTEMI and perimyocarditis groups, respectively ($p < 0.001$) demonstrating good differentiating capability. The ROC of admission CRP/troponin ratio for diagnosis of perimyocarditis against STEMI with or without NSTEMI yielded a similar AUC of 0.74 and 0.73, respectively. CRP/troponin ratio > 500 resulted in specificity exceeding 85%.

The CRP/troponin ratio is an effective tool that enhances the differentiation between perimyocarditis and AMI.