What is the diagnostic accuracy of highly sensitive troponin assays in the emergency room population? 

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ABSTRACT

The study was a sub study of the point of care arm of the RATPAC trial (Randomised Assessment of Treatment using Panel Assay of Cardiac markers - Contemporary Biomarker... Assessment programme (no 06/302/19) and sponsored by the University of Sheffield. The study funders had no role in study integrity of the data and the accuracy of the data analysis.

METHODS

The study was a sub study of the point of care arm of the RATPAC trial (Randomised Assessment of Treatment using Panel Assay of Cardiac markers - Contemporary Biomarker... Assessment programme (no 06/302/19) and sponsored by the University of Sheffield. The study funders had no role in study integrity of the data and the accuracy of the data analysis.

RESULTS

Receiver operator characteristic curves for troponin measurements for the diagnosis of acute myocardial infarction. Markers measured on admission. cTnI CS = Stratus CS admission sample, cTnI B1 = Beckman AccuI admission sample, cTnI S1 = Siemens ultra admission sample, cTnT 1 = Roche high sensitivity cardiac troponin T admission sample.

Diagnostic efficiencies of cardiac troponin measurements on admission and for peak values of individual markers (confidence intervals in parenthesis) for the diagnosis of acute myocardial infarction. P values are shown as significance compared with diagnostic categorisation for each marker against cardiac troponin I measured using the Stratus CS.

CONCLUSION

The measurement of high sensitivity cardiac troponin is the best single marker in patients presenting with chest pain in the emergency department. All methods performed with equivalent diagnostic accuracy but differed in the rate of troponin elevation in the non ACS population.

Admission measurement alone is insufficiently sensitive for rule out, as is 90 minute measurement. The optimal timing for measurement of cardiac troponin remains to be defined.

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