ASIA PACIFIC EVALUATION OF CHEST PAIN TRIAL (ASPECT) - NEW ZEALAND ARM

ACC Poster Contributions
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Background: The use of an objective system to risk stratify patients with symptoms suggestive of cardiac ischemia may allow discharge or early stress testing of very low risk patients. Low risk patients can be identified using a “rule out” strategy, requiring high sensitivity and negative predictive value (NPV).

Method: 500 patients presenting to the Christchurch Hospital Emergency Department with symptoms suggestive of acute coronary syndrome, were recruited prospectively to validate that an “accelerated chest pain algorithm” allows safe discharge or early stress testing of low risk patients. This involves pre-test risk assessment using the Thrombolysis In Myocardial Infarction risk (TIMI) score, electrocardiogram (ECG) and Biosite Triage point of care multi-marker panel (Troponin I, Creatine Kinase MB fraction, Brain Natriuretic Peptide and Myoglobin) measurements over a 2 hour time period. Patients were regarded as low risk if they had a TIMI risk of 0, no new ischemic ECG changes and normal cardiac markers. Patients were managed as per admitting physician and have been followed for 6 months for adverse events. Primary outcome includes 1 of: death, cardiac arrest, ventricular arrhythmias or high atrio-ventricular block requiring treatment, cardiogenic shock and acute myocardial infarction (AMI).

Results: 110 (22%) of the 500 patients achieved the primary outcome on admission. The chest pain algorithm had a sensitivity, specificity, positive predictive value and NPV of 100%, 15.1%, 24.9% and 100% respectively. 18 (3.6%) patients had further primary outcome events at 45 days and 28 (5.6%) patients by 6 months. There were no events in patients with a negative chest pain algorithm. 60 (12%) patients were identified as low risk by the algorithm.

Conclusion: The chest pain algorithm has a very high sensitivity and NPV for both admission and follow-up events and therefore is potentially a useful “rule out” strategy. The 12% identified as low risk would be suitable for either early stress testing or discharge. This would reduce the need for hospital admissions and potentially harmful investigations and treatments. Data from 1000 patients will be available by presentation.