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Scoping review of Cardiac Troponin Test in the Prehospital Management of Non-ST-Elevation Myocardial Infarction in Qatar

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ABSTRACT

Background: Acute coronary syndrome (ACS) is one of the most common life-threatening diseases worldwide.¹ Early diagnosis, advanced cardiac life support, and rapid transportation to a cardiac center are essential to reduce mortality and morbidity. ST-segment elevation myocardial infarctions (STEMI) are life-threatening and are diagnosed with a 12-lead electrocardiogram (ECG). However, non-STEMI (NSTEMI) is not prioritized as a STEMI in the prehospital setting. Studies have confirmed that patients who are diagnosed with an ACS in the prehospital setting are more likely to survive.^{2,3}

Method: A scoping review was conducted based on the above topic. Limited data is available on prehospital cardiac troponin tests for NSTEMI.

Discussion: Paramedics from the national Ambulance Service in Qatar diagnose patients with ACS based on the findings of a 12-lead ECG, clinical presentation, abnormalities in vital signs, physical examination, and congruent history which is compatible with the American Heart Association and European Resuscitation Council recommendations. In a case of NSTEMI chest pain, the paramedic cannot rule out Acute Myocardial Infarction (AMI), yet the patient will be taken to the normal emergency department until further investigations are done.¹ ACS remains a challenge to diagnose in the prehospital setting as the diverse population in Qatar makes communication often difficult which would negatively impact the patient's assessment. Although the accuracy of prehospital Troponin tests done around 2010 was relatively encouraging², their sensitivity has now significantly improved and warrants further studies to highlight their benefit to patient care.³ The routing of patients with ACS (STEMI and NSTEMI) to the appropriate cardiac center is essential to assure they receive a rapid diagnosis and appropriate care.

Conclusion: The enhanced diagnostic accuracy of ACS in the prehospital setting by using a rapid Troponin test is expected to accelerate the care of NSTEMI patients and should be explored in Qatar. This scoping review indicates that limited data is available on cardiac troponin tests for NSTEMI.

Keywords: Acute Myocardial Infarction, Troponin, Prehospital, chest pain, Electrocardiogram

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