Adherence to national guidelines in the acute phase management of patients with ST- elevation myocardial infarction (STEMI) at Teaching Hospital Jaffna

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Background: Myocardial infarction (or damage to the heart muscle caused by obstruction of coronary arteries) may be classified into ST elevated myocardial infarction (STEMI) and non-STEMI. Early management by reperfusion with thrombolytic agents or thrombolytic intervention leads to better outcomes. To minimize treatment delays, professional bodies of physicians recommend minimum time intervals for pharmacological and non-pharmacological aspects of management. The time of admission is referred to as First Medical Contact (FMC). The time interval between FMC and reperfusion by thrombolytic agent is the Door to Needle (D2N) time, and by thrombolytic intervention is the Door to Balloon time (D2B). These should be 30 and 90 minutes respectively for a STEMI patient. Adherence to thenational guideline on STEMI management has not been assessed in Teaching Hospital Jaffna. Objective:To assess adherence to national guidelines in the acute phase management of patients with STEMI at Teaching Hospital Jaffna and the influence of selected patient sociodemographic factors on adherence.

Methodology: A hospital-based descriptive cross sectional study was carried out in the Emergency Unit and Coronary Care Unit of Teaching Hospital Jaffna between November 2017 and January 2018. Consecutive sampling was used. Data relevant to acute phase management of STEMI were collected from medical records. Data were analyzed using descriptive statistics (percentages, proportions) with SPSS (v.23).

Results: Fifty-three patients with STEMI participated in the study. Initial 12-lead ECG assessment was done in all patients within 10 minutes of FMC. There was no time delay in the diagnosis and interpretation of ECG. Blood was sent for serum cardiac biomarkers, full blood count, prothrombin time with INR, activated partial thromboplastin time, electrolytes, magnesium, blood urea nitrogen, creatinine, glucose, lipid profile, in all patients. ECG was monitored continuously in all patients for complications and stabilization of AMI/STEMI with other vital signs monitored. Oxygen 2L/min via nasal cannula for six hours, two intravenous access lines, sublingual GTN and morphine sulphate were given to all patients. Peri-procedural dual anti-platelet therapy was given. Emergency echocardiography or emergency angiography was not done in any of the patients. Median D2N & Total reperfusion delay of THJ are 22.58 & 100.89 minutes respectively(n≤53).As emergency fibrinolytic intervention was not done routinely, D2B was not measured. Instead, secondary percutaneous coronary intervention was done.

Conclusions : Most of processes in the management of patients with AMI/STEMI at THJ met the standards set by local and international guidelines on acute preventive measures. Though some processes did not meet the standards with the circumstances and, there is no system delay. Data entry log book and emergency management system(EMS) can be developed to improve the adherence thereby increase the quality outcomes of AMI/STEMI. Patients should be provided with health education to avoid patient delay.