PP82 CASE SERIES OF PRE-HOSPITAL ACTIVATION OF STEMI PATHWAY IN A PRIMARY PERCUTANEOUS CORONARY INTERVENTION CAPABLE CENTER

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INTRODUCTION

Institut Jantung Negara (IJN) is a hospital with Primary Percutaneous Coronary Intervention (PPCI) capabilities and is part of a regional STEMI Network. In 2019, IJN engaged First Ambulance Services that provides on-site ECG transmission from ambulance to hospital. This allows for diagnosis of ST elevation myocardial infarction (STEMI) and activation of the catheterization laboratory prior to patient arrival, thus reducing time to treatment.

CASE

We describe 4 cases of males between the age of 46 to 60 with chest pain who were diagnosed with acute STEMI from ECGs performed in the pre-hospital setting and sent directly to IJN. 1 case was referred from a non-PCI capable hospital ambulance. Time from chest pain onset to First Medical Contact with ambulance services and ECG interpretation ranged from 24 minutes to 5 hours and 12 minutes.

RESULTS

Pre-hospital ECG to Balloon (E2B) time ranged from 68 to 100 minutes with an average of 88 minutes. Door to Balloon (D2B) time ranged from 52 to 75 minutes with an average of 65 minutes. All patents survived to discharge where 3 patients had a length of stay (LOS) within 5 days while 1 patient stayed 10 days due to hospital acquired pneumonia.

DISCUSSION

When STEMI diagnosis is made in the pre-hospital setting, the ambulance system plays a crucial role in management of STEMI where it not only provides transport but also enhances early diagnosis, triage and treatment. The 2017 European Society for Cardiology Guidelines for the Management patients presenting with STEMI recommends the maximum time from STEMI diagnosis to wire crossing (E2B) in transferred patients is within 90 minutes. In our case series, the E2B time was an average of 88 minutes with 100% survival to discharge and short LOS within 5 days for patients without complications.

CONCLUSION

Pre-hospital diagnosis of STEMI has the potential to reduce treatment delays and improve outcomes for STEMI patients. Early community recognition of a heart attack, early activation of ambulance services, pre-hospital ECG STEMI diagnosis and activation of the catheterization laboratory prior to arrival are key elements in this improvement process.

KEYWORDS

STEMI, Pre-Hospital, Primary PCI