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ST ELEVATION MYOCARDIAL INFARCTION IN SWRHA 2015 to 2016:
A look at door to electrocardiogram and door to needle times

Authors: Saleem Varachhia[1], Tracy Boodram[1], Vishesh Dhanraj[1], Stephanie Dhansingh[1], Rhonda Balkissoon[1], Zada Hassanali[1]

Institution : Emergency Department: San Fernando General Hospital

Email Contact : saleem1111@hotmail.com | tracyboodram11@gmail.com | visheshdhanraj@gmail.com | stephaniedhansingh@live.com | balkissoonrhonda@hotmail.com | nazh21@hotmail.com

ABSTRACT

OBJECTIVE:

To identify door to electrocardiogram (D2E) and door to needle (D2N) times in South West Regional Health Authority (SWRHA) and associated comorbidities during the period of 2015 to 2016.

METHOD:

A multicentre retrospective study of thrombolysed patients during the period of January 2015 to May 2016 were collected from all Emergency Departments in SWRHA and analysed. D2E and D2N times were recorded using excel spreadsheet along with patients' comorbidities.

RESULTS:

Of the 175 patients, the overall D2E time of < 10 minutes was seen in 40% and D2N time of < 30 minutes was 36%. Numerous comorbidities were noted with hypertension being 35% followed by 26% being diabetes.

DISCUSSION:

Hypertension in the study population was consistent with the leading comorbidity in Trinidad and Tobago. ACC/AHA times (D2E <10 minutes and door to needle <30 minutes gold standard international times) were unlikely met due to possible limitation of available staff to perform ECGs and their interpretation thereafter.

POLICY AND/OR RESEARCH IMPLICATIONS:

By ACC/AHA gold standard D2E and D2N times are not being met in over 60% of the study population and therefore increases the risk of major adverse cardiac events. Increasing staff can perhaps reduce these times and continued research will be needed to ensure we meet these guidelines in the future.

CONCLUSION:

Closer control of comorbidities such as hypertension is warranted to reduce cardiovascular disease**.** D2E and D2N times were not met by ACC/AHA guidelines in SWRHA. Measures are needed to reduce such times and therefore improve clinical outcomes.

OBJECTIVES

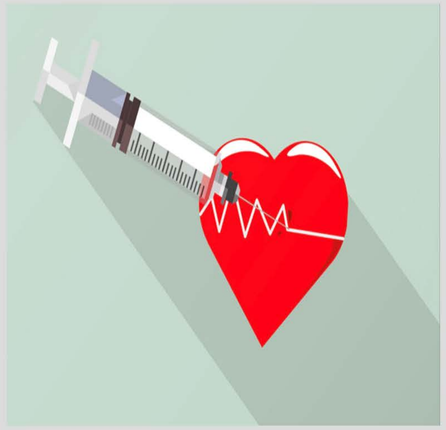
To determine percentage of patients that met American College of Cardiology (ACC)/ American Heart Association (AHA) standards

- Door to ECG (D2E) time ≤10 minutes
- Door to Needle time (D2N)≤ 30 minutes

To determine comorbidities in STEMI patients.

METHODS

A retrospective study was performed on all patients in SWRHA that were thrombolysed during the period of January 2015 to May 2016



RESULTS

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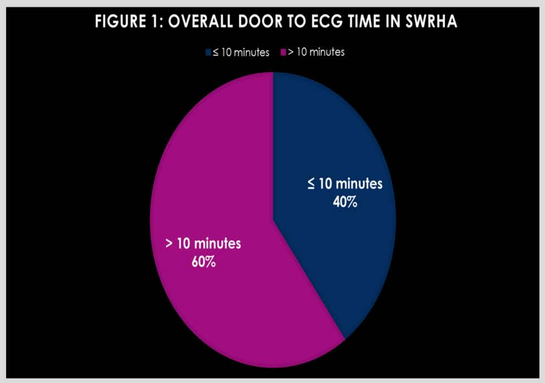

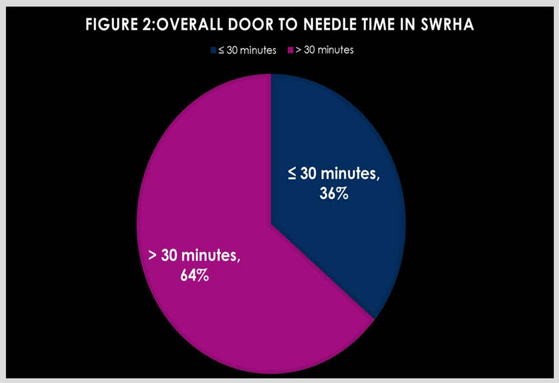

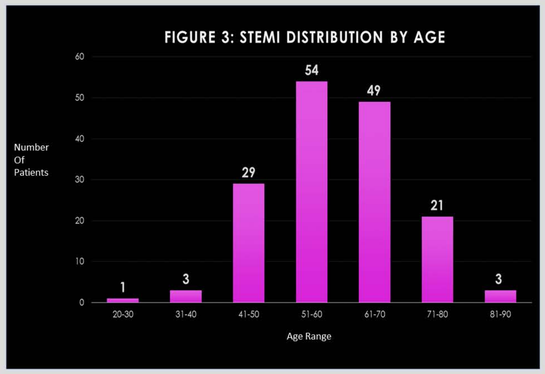

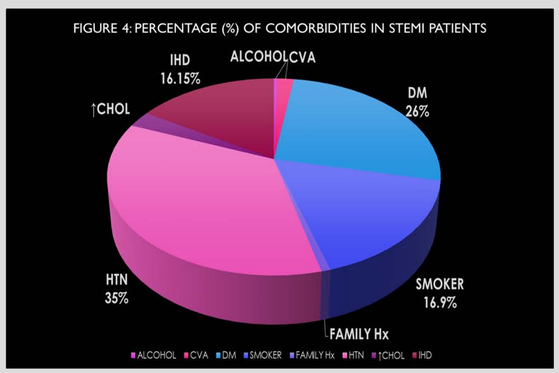

DISCUSSION

Heart disease is the highest ranking cause of death in Trinidad and Tobago, accounting for 25% of all deaths annually. (1)

High prevalence rates of Diabetes Mellitus and Hypertension (12%) are contributing factors to this in Trinidad and Tobago. (1,2)

Myocardial infarction (MI) is defined pathologically as myocardial cell death due to prolonged ischemia. (3)

STEMI is diagnosed solely with ECG in the ED.

The incidence of STEMI was highest amongst the age range 51-60 years. (Figure 3)

ACC/AHA times:Door-to-first ECG time goal ≤10 minutes & Door to needle <30 minutes, gold standard international times. (3,4)

SWRHA is not currently a PCI-capable institute therefore timely fibrinolytic therapy should be administered (goal ≤30 minutes). (3)

CONCLUSION

More than 60% door to ECG ≤10 MINS and door to needles≤ 30 minute times are not met and therefore AHA/ACC guidelines. (Figure 1,2)

Hypertension (35%) and Diabetes Mellitus (26%) were prevalent amongst patients with STEMI. (Figure 4)

Measures are therefore needed to improve door to ECG times and therefore door to needle times:

-Prompt identification of the patient with chest pain

-Availability of trained personnel to obtain ECG

-Interpretation of ECG

Also stringent monitoring of comorbidities and primary prevention measures should be implemented. (5)

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