



COMPARATIVE STUDY OF DIFFERENT THROMBOLYTIC AGENTS IN ACUTE MYOCARDIAL INFARCTION IN A TERTIARY CARE HOSPITAL ON TRIBAL BASED POPULATION

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ABSTRACT

Aim: To study cognitive dysfunction in schizophrenia patients in State mental health hospital, Shimla.

Material and methods: We did a cross-sectional observation inpatients diagnosed with schizophrenia in our hospital. After informed consent sociodemographic information and clinical characteristics were collected. Cognitive assessment was done using Mini mental state examination.

Results: The mean age of participants was around 37 years and most were male and single. Olanzapine was most common prescribed drug second most common was haloperidol. Mean MMSE score was 20.08 with majority of patients had moderate dysfunction (47.8%).

Conclusion: It is evident in this study that cognitive impairment is significant component and often overlooked in schizophrenia and institutionalisation also plays a role. The psychopathological factors also play crucial role in cognitive deterioration in schizophrenia.

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INTRODUCTION

Acute coronary syndrome is due to decrease flow in the coronary arteries so that the part of the heart muscle is unable to function properly and thus it dies. Most common symptoms is chest pain often radiating to the shoulder or angle of jaw associated with nausea and sweating. They are divided into three categories 1.STEMI 2.NSTEMI 3UA. Myocardial infarction is a major cause of mortality and morbidity worldwide. STEMI is a medical emergency condition. Reperfusion therapy like PCI is gold standard for early management of STEMI which is better replaced by Thrombolytic therapy. Cathlab facility is not available in all tertiary care hospital. Pharmacological reperfusion is the mainstay of the treatment in these setup where patient attend hospital in time. Successful thrombolysis depends upon mean time of presentation after the index pain and choice of thrombolytic drugs. The aim of the study was to compare the safety and efficacy of three widely available Thrombolytics Streptokinase, Tenecteplase, and Reteplase in patient with acute ST segment elevated myocardial infarction.

Objectives

1. Evaluate the chance of successful thrombolysis with time period.
2. Assess the safety and efficacy of thrombolysis.

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Study design and study period

It was an Prospective observational study conducted in cardiology department BSMC, Bankura West Bengal for a period of eighteen months.

Source of data:- All the data were collected from previous designed data collection form. The data were collected from Prospective observational study from patient admitted in our hospital with STEMI fulfill our guiding protocol.

Sample size:-Total 150 patients were recruited in study. Fifty from each group. Total patients were divided into three groups. Group 1 for Streptokinase, group 2 for Tenecteplase, group 3 for Reteplase.

Inclusion criteria:

1. Patient should follow the ACC/AHA guidelines for AMI diagnosis.
2. Should presented within the window period of 6 hrs from index events.
3. No contraindication for thrombolytic Therapy.

Exclusion criteria:- All patients are follows the exclusion criteria as per standard guidelines were excluded from the study.

Parameter assessed

ST-Segment resolution-ST segment elevation resolution was calculated as the initial sum of ST Segment elevation (on

pretreatment ECG) minus the sum of ST Segment elevation on second ECG (90 min after the thrombolytic Treatment) divided by the initial sum of ST Segment elevation and expressed as a percentage.

Symptoms relief:- After the initial Therapy with Thrombolytic drugs the symptoms decreases within 2 hrs were considered as successful symptoms relief.

Safety monitoring parameters

1. Hypotension
2. Bleeding
3. Allergy
4. Fever and chills.

Data collection:- A Prospective observational study was done for a period of one and half year at BSMC, Bankura, West Bengal cardiology department. All the patients who were diagnosed with STEMI Prescribed either with Streptokinase/Tenecteplase/Reteplase were included as participant. All the required data was collected from Past medical and medication history, diagnosis, ECG and interim of the subject directly. Statistical analysis was done by recording and analysis of data in Microsoft excel format. Mean was used to calculate the average age and length of the study. P value of <0.05 was considered as significant.

RESULTS

In the present study a total number of 150 patients who have been admitted with STEMI were included with 50 patients in each group. Out of 150 patients 104 was Male and 46 was female. 88 patients were aged above 60 yrs and 62 were age less than 60 yrs. Out of them 94 patient had anterior wall infarction and mean 4.4 hrs. window period is the time duration between the onset of myocardial infarction symptoms and the initiation of Thrombolytic Therapy. It was found that ST-Segment resolution was more in patients who presented early in our department and consequently treated. In Streptokinase group Successful Thrombolysis achieved in 67% of patient according to ECG criteria. Complete relief of pain occur in 54% of patient. Major Bleeding as hematuria in two patients. No cerebrovascular accident happened. Two patient died during Index hospitalisation due to cardiovascular cause. Repeat angina occur in Twelve patients of which four patient referred to higher center for urgent revascularization. Echocardiographic evidence of heart failure (LVEF<50%) occur in 16% of patient after successful thrombolysis during Index hospitalisation period. In Tenecteplase group successful thrombolysis achieved in 69% of patients according to ECG criteria. Complete relief of pain occur in 51% of patient. One patient had history of severe GI Bleeding for which required four units of blood Transfusion. No cerebrovascular accident occur. Two patient died during hospitalisation due to cardiovascular cause. Urgent referral for revascularisation required in five patient. Echocardiographic evidence of HF occur in 13% of patient after successful thrombolysis. For analysis of Reteplase group successful thrombolysis occur in 78% of patient. Complete relief of pain occur in 66% of patient after thrombolysis. No evidence of Significant major bleeding except three patient with minor gum bleeding and Two patient with haemoptysis which was successful treated medically. Only one patient died in this group in Index hospitalisation. No patient required for urgent revascularisation during hospitalisation period.

DISCUSSION

Newer Thrombolytic agents have been developed in order to provide longer half life to enable bolus administration, fibrin specificity, and to be resistant to natural inhibitors such as Plasminogen activator inhibitor 1(PAI-1). Following the break Through discovery of Streptokinase in the Treatment of patient with STEMI, the emergence of noble agent the attention shifted to determine which Thrombolytic agent is best. Previous Two landmark Trial GISSI-2 and ISIS-3 did not shows any advantage of one Thrombolytic over another. In GUSTO Trial show mild mortality benefit with TPA over other group in expense to increase Bleeding risk. In our study we found that Reteplase shows increased percentage of successful Thrombolysis in terms of ECG criteria and pain relief. Tenecteplase though new generation one does not significant benefit over Streptokinase. Considering the Bleeding complication both Streptokinase and Tenecteplase shows more major Bleeding complication than Streptokinase and Reteplase. Tenecteplase group shows more severe GI Bleeding complication which require Blood transfusion. Two patient from Streptokinase group, two patient from Tenecteplase group and one patient from Reteplase group died due to CVS complication at Index hospitalisation. But the difference was not statistically significant (P>0.05). Urgent referral for revascularisation was more with Streptokinase group than Tenecteplase and Reteplase group. Calculation of LVEF by M mode during discharge at Index hospitalisation Reteplase group shows more promising result than Streptokinase and Tenecteplase one.

CONCLUSION

Reteplase shows superior safety and efficacy than Streptokinase and Tenecteplase as thrombolytic agent. Though Tenecteplase shows more benefit over streptokinase in one point/parameter their efficacy is comparable.

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