STUDY OF ARRHYTHMIAS DURING AND WITHIN SIX HOURS OF THROMBOLYSIS IN PATIENTS OFACUTE MYOCARDIAL INFARCTION

Shradha Satish Runwal

Abstract

INTRODUCTION:

Reperfusion therapy has become the mainstay for the treatment of acute myocardial infarction with the goal of restoring flow in the occluded infarct-related artery and thus potentially salvaging ischemic myocardium.1 However, reperfusion has been referred as a double edged sword because reperfusion itself may lead to accelerated and additional myocardial injury beyond that generated by ischemia alone. This results in a spectrum of reperfusion associated pathologies, collectively called as reperfusion injury.2 Reperfusion arrhythmias are an important noninvasive marker of successful recanalization of infarction related coronary artery. However they are also a sign of reperfusion injury and a finding which may limit the favourable effect of reperfusion.3

AIM:

To study the course of ECG rhythm changes during and within six hours of thrombolysis in patients of acute myocardial infarction.

OBJECTIVE: To analyse the prevalence of various arrhythmias within six hours of thrombolysis in patients of STEMI.

INCLUSION CRITERIA:

All patients presenting to intensive cardiac care unit of our tertiary care centre with acute STEMI within 2 years of study.

EXCLUSION CRITERIA:

Patients with previous history of myocardial infarction, pericarditis, valvular heart disease, pacemaker device.

MATERIAL AND METHODS :

Every 4th patient of acute onset STEMI presenting to our tertiary care centre thrombolysed with Inj. Streptokinase (15 lac U IV over 1 hour) was monitored for arrhythmias using Holter monitor during and within 6 hours of thrombolysis. A total of 200 patients were studied. It was a cross sectional study. Statistical analysis was done using Chi Square test .P value <0.005 was considered statistically significant.

RESULTS:

In this study of 200 cases, the prevalence of arrhythmias was 84%.

The mean age of patients with ST elevation myocardial infarction was 57.01±12.37 years. Occurrence of idioventricular rhythm and monomorphic couplets was significantly more between 41-70 years of age group (p<0.0001).

The prevalence of arrhythmias was 83.09% in males and 85.94% in females. No significant relationship was observed between gender and type of arrhythmia except ventricular tachycardia which was significantly more common in females.

Ventricular premature complexes (VPCs) were observed in 84% cases. Most common arrhythmia in both genders was idioventricular rhythm, followed by nonsustained ventricular tachycardia.

Diabetes, hypertension, tobacco, and alcohol consumption did not increase the risk of arrhythmias in a statistically significant way. Ventricular tachycardia (75%) and sinus tachycardia (58.3%) were more common in anterior wall infarction, but the difference was not statistically significant. Complete heart block (87.5%) and sinus bradycardia (64.7%) were more common in inferior wall infarction, but the difference was not statistically significant. Most common arrhythmia in patients of both anterior and inferior wall MI was idioventricular rhythm followed by nonsustained ventricular tachycardia.

The occurrence of idioventricular rhythm and non sustained ventricular tachycardia was significantly higher between 5-6 hours and first three hours after start of thrombolysis. The occurrence of monomorphic couplets and polymorphic couplets, ventricular bigeminy was significantly higher in first two hours after onset of thrombolysis and decreased thereafter(p<0.0001).

CONCLUSION:

Idioventricular rhythm is the most common arrhythmia after thrombolysis in acute MI. The occurrence of monomorphic couplets and polymorphic couplets, ventricular bigeminy was significantly higher in first two hours after onset of thrombolysis and decreased thereafter.

REFERENCES:

1. Holmes D, et al. Lessons we have learned from the GUSTO trial. Journal of the American College of Cardiology.1995;25(7):10S-7S.

2.Moens A, Robert M, Eric J et al. Myocardial ischemia/reperfusion-injury, a clinical view on a complex pathophysiological process. International Journal of Cardiology. 2005;100:179-190.

3.Jurkovicova O, Cagan S. Reperfusion arrhythmias. Bratisl Lek Listy. 1998;99(3-4):162-71.

Biography:

Dr Shradha Satish Runwal has completed her MBBS, M.D in General Medicine from Government Medical College and Hospital, Aurangabad, India. She is currently working as 3rd D.M. Cardiology Resident under Professor Dr.Tejas M.Patel at SVP Hospital, Ahmedabad, India

32nd Annual Cardiologists Conference.August24-25,2020.

Abstract Citation:

Dr Shradha Satish Runwal, study of arrhythmias during and within six hours of thrombolysis in patients ofacute myocardial infarction.

32nd Annual Cardiologists Conference,August24-25,2020 (https://cardiologists.insightconferences.com/abstract/2020/16-study-of-arrhythmias-during-and-within-six-hours-of-thrombolysis-in-patients-ofacute-myocardial-infarction)