

WORLD HEART RHYTHM CONFERENCE

November 15-17, 2018 Istanbul, Turkey

Effect of intravascular metoprolol administration to prevent fatal arrhythmias in patients of STEMI undergoing primary percutaneous coronary angioplasty

Mansoor Ahmed

J B Gupta Hospital Bhiwani, Haryana

Background: Fatal ventricular arrhythmias, including serious ventricular tachycardia (VT) and ventricular fibrillation (VF), have been reported to occur in 1–5% of the patients undergoing primary coronary angioplasty. These events may cause hemodynamically instability and affect procedure outcome.

Objectives: To assess effect of Intravascular Metoprolol administration to prevent fatal arrhythmias in patients of STEMI undergoing Primary Percutaneous coronary angioplasty

Methods: An open, randomized study was carried out at single centre to treat 220 patients who had undergone primary PCI for STEMI. The patients were randomized to either receive IV metoprolol 15 mg(110 subjects) or not to receive the medication(110 subjects) prior to procedure . The outcomes were the detection of arrhythmias before ,during procedure and post 12 hours of PCI.

Results: Number of patients with normal sinus rhythm was significantly higher ($p < 0.001$) in treatment group (47.27%) when compared to control group (24.45%). Incidence of fatal arrhythmias was lower in treatment group (6.36%) but it was statistically insignificant ($p > 0.05$).

Conclusion: Metoprolol lowers the incidence of fatal arrhythmias in patients undergoing primary PCI. More large scale studies are required to establish its definitive role in prevention of fatal arrhythmias during primary PCI

Group	No of cases	Normal rhythm	IVR	VPCs	AF	VT	VF
Preventive Treatment group	110	52 (47.27%)	21 (19.09%)	28 (25.45%)	2 (1.8%)	7 (6.36%)	0
Control group	110	27 (24.45%)	26 (23.63%)	36 (32.72%)	4 (3.6%)	15 (13.6%)	2(1.8%)
χ^2		12.344	0.6764	1.4103	0.6854	3.2323	2.0183
p		<0.001	>0.05	>0.05	>0.05	>0.05	>0.05

mansoor519@gmail.com

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