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MYOCARDIAL ISCHEMIA AND INFARCTION

USE OF IVABRADINE IN THE MANAGEMENT OF ACUTE ANTERIOR WALL MYOCARDIAL INFARCTION COMPLICATED BY LEFT VENTRICULAR FAILURE

ACC Poster Contributions
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Background: Sinus Tachycardia is an independent predictor of mortality following acute myocardial infarction (MI). Though many situations, like acute heart failure complicating myocardial infarction demand rate control, beta blockers cannot be used often due to low or borderline blood pressures. This problem is further compounded by the use of ionotropes. Ivabradine has the potential advantage of reducing heart rate without lowering blood pressures in these acute situations.

Methods: Patients with an acute anterior wall MI, who had a heart rate of more than 100/min and Systolic pressure < 100mmHg with one or more signs of Left ventricular failure and requiring ionotropic support were given Ivabradine (5 to 7.5mg twice daily orally). Patients who did not receive Ivabradine formed the control group. The rest of the treatment was as per standard protocol in our intensive care unit for both groups. We studied the hemodynamics in both groups and follow up was limited to index hospitalisation.

Results: A total of 106 patients were studied. 52 recieved ivabradine and 54 were in control group. 28 patients underwent coronary intervention in both the groups. Mean Heart rate reduction was 28 beats per minute (bpm) within 24 hours with ivabradine compared to 8.3 b.p.m. with placebo. Ivabradine significantly reduced the average duration of ionotrope administration (22.5 hours v/s 40 hours) and ventilatory support (16.8 hours v/s 28 hours), recurrence of heart failure symptoms (8% v/s 22.5%) and time to discharge. The number of deaths were lesser though not statistically significant (3 v/s 9). The combined end point of recurrent angina, reinfarction, death and need for urgent revascularization were significantly lower (18% v/s 41% p = 0.02)

Conclusion: Ivabradine, by selectively controlling heart rate, seems to be a valuable addition in management of heart failure complicating Acute Myocardial infarction in reducing in-hospital events. It needs to be validated in further randomized studies.