included the rates of major adverse cardiovascular events and definite stent thrombosis at 30 days.

Results: The median time from randomization to angiography was 48 minutes, and the median time difference between the two treatment strategies was 31 minutes. The two co-primary end points did not differ significantly between the pre-hospital and in-hospital groups (86.8% vs 87.6% and 82.6% vs 83.1% respectively, p=NS). The rates of major adverse cardiovascular events did not differ significantly between the two study groups. The rates of definite stent thrombosis were lower in the pre-hospital group than in the in-hospital group (0% vs. 0.8% in the first 24 hours, p=0.008; 0.2% vs. 1.2% at 30 days, p=0.02). Rates of major bleeding events were low and virtually identical in the two groups.

Conclusion: Pre-hospital administration of Ticagrelor in patients with acute STEMI appeared to be safe but did not improve pre-PCI coronary reperfusion. It may, however, reduce the risk of post-PCI stent thrombosis. Results are also aligned with the new ESC 2014 Guidelines which recommended P2Y12 inhibitors to be given at first medical context for patient undergoing primary PCI. These will particularly suitable in India where patients are arriving late at the cath lab centers. For STEMI patients undergoing PCI, it is advisable to give Ticagrelor in pre-hospital (in Ambulance or at secondary care) setting in Indian scenario.

Study on correlation of obesity with short-term prognosis in acute myocardial infarction

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Background: Obese patients with established coronary artery disease (CAD) have reduced mortality compared to normal or low body mass index (BMI) patients, irrespective of whether treated with medically, percutaneous coronary intervention (PCI) or coronary artery bypass surgery (CABG). The reason for the paradoxic U or J-shaped relation between BMI and adverse outcome is not yet clearly understood. We sought to evaluate the association of BMI and waist circumference at the time of presentation in patients with myocardial infarction with one-year adverse cardiac events.

Methods: In this prospective cohort study we included consecutive patients with acute myocardial infarction (MI) admitted to a tertiary care hospital during a period of one year .Upon admission, BMI and waist circumference were measured. Patients were followed-up for a period of one year for primary composite outcome of death or nonfatal MI and correlated with BMI and waist circumference categories. Body mass index was classified as underweight (BMI <18.5 kg/m^2), normal weight (18.5-22.9 kg/m^2), overweight (23-24.9 kg/m^2), obese class I (25 to 29.9 kg/m^2) or obese class II (>30 kg/m^2).Waist circumference greater than 90 cm in men and 80 cm in women was categorized high.

Results: There were 703 patients (males 559 (79.5%), females 144 (20.4%)). Among them 100(14.2%) were underweight, 351(49.9%) were of normal weight and 122 (17.3%) were overweight. Class I obesity was seen in 112 (15.9%) and class II obesity in 18(2.5%) patients. There were 227(32%) patients with high waist circumference. Over a period of one year, there were 40 (5.6%) deaths including 18 in-hospital deaths. Combined nonfatal MI and death at one year was 128(18.2%). Incidence of primary outcome was 25.0% in low BMI group, 19.9% in normal BMI group, 13.1% in overweight group, 13.4 % in obese class I and 11.1 % in obese class II group. In univariate analysis, the inverse correlation of obesity

and primary outcome was significant by linear-by-linear association (p value = 0.007). In-hospital mortality showed no significant correlation with obesity parameters. In one year follow up period, 12.8% in high waist circumference group and 20.8 % in normal waist circumference group had primary outcome (P value=0.01). In-hospital mortality was 2.5% in high waist circumference group and 3.4% in normal waist circumference group (P value = 0.052). Both BMI and waist circumference lost their predictive value in multivariate analysis.

Conclusions: Low BMI and normal waist circumference were associated with a worse short term outcome in patients with acute MI. After adjusting for other variables, neither BMI nor waist circumference independently predicted cardiac events or death after acute MI.

Cardiac rehabilitation in a major metropolitan in South India: Factors influencing patient participation

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Background: The higher risk for coronary heart disease (CHD) in South Asians at a younger age is attributed to the higher levels of conventional risk factors. However, cardiac rehabilitation (CR) is yet to gain momentum in the subcontinent. We aimed to analyse the factors that influence participation in a CR program in a single center in South India.

Methods: All patients referred for CR between May and July 2014 were included. Age, gender, work status, residence address, past medical history and treatment history were documented. A typical CR program (TCR) included 24 sessions spread over 12 weeks, each session lasting 90 minutes. A modified CR program (MCR) had fewer sessions and a home-based CR program (HCR) was followed at home with a monthly visit to the CR facility. Patients were motivated by the physician to attend group sessions at a fixed schedule based on their convenience. CR was exercise-based with education on balanced diet andstress management, and psychosocial counseling.

Results: The study cohort included 24 patients with coronary heart disease (58±9 years,88% males). Working individuals (n=17), retired people (n=5) and homemakers (n=2) constituted the cohort. While majority lived in the same city as the CR facility, 8 (33%) resided outside thecity with commute time >3 hours. CR program was attended by 14 (58%) subjects of which 8 (57%) were TCR, 5 (36%) MCR and 1(7%) HCR. Of the 10 patients not following a CR program, long distance (n=8), dependent family member (n=1) anddebilitating spinal tuberculosis (n=1) were the reasons.

Conclusions: Secondary prevention of CHD is the definitive solution to the growing rate of complications and spiraling healthcare costs in India. This study has demonstrated that patients can be motivated to attend a comprehensive CR program, with some modification to suit their requirements. Lack of easily accessible CR facilities is a deterring factor for participation.

Relationship between ankle brachial index and coronary angiographic findings

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Background: Since cardiovascular diseases are associated with high mortality and generally, there is a need for a reliable tool for early diagnosis. Ankle brachial index (ABI) is a non-invasive marker of coronary artery disease (CAD) and is an inexpensive, reliable, and reproducible method. The current study aims to determine the relation between ankle−brachial index (ABI) and angiographic findings and major cardiovascular risk factors in patients with suspected coronary artery diseases (CAD).

Methods: In this prospective observational study, patients with suspected CAD were studied. Characteristics of studied subjects including atherosclerotic risk factors such as diabetes mellitus, hypertension, hyperlipidemia and smoking were obtained. ABI was measured in all studied patients. ABI $\leq$ 0.9 (ABI+) was considered as peripheral vessel disease and ABI >0.9 (ABI-) was considered as normal.

Then, all studied patients underwent coronary artery angiography. The results of the angiographic findings were compared in ABI+ and ABI- groups.

Results: In this study, 100 patients were investigated. ABI $\leq$ 0.9 was seen in 20 patients (20%).The prevalence of ABI+ among men and women was 26% and 7%, respectively (P = 0.01).

The prevalence of atherosclerotic risk factors was significantly higher in ABI+ patients than in ABI (-) ones (P < 0.05).

ABI+ patients had more significant stenosis than ABI(-)ones.

The mean of occlusion was significantly higher in ABI+ patients with left main artery (LMA), right coronary artery (RCA), left anterior descending artery (LAD), and left circumflex artery (LCX) involvements (P < 0.05).

Conclusion: The findings of this study indicated that ABI could be a useful method in assessing both the atherosclerotic risk factors and the degree of coronary involvements in suspected patients.

Thrombolysis success rate beyond 90 minutes

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Background: The aim of the study was to assess the thrombolysis success rate beyond 90 minutes. Conventionally we assess the success rate at 90 minutes after thrombolysis. In our study we assessed the success rate at 120 minutes and at 180 minutes.

Methods and Results: 200 STEMI patients were enrolled. About 65% are anterior wall MI, remaining are Inferior wall MI. Median delay was 4.5 hours on average. All are thrombolysed with streptokinase after ruling out contraindication for thrombolysis. Success rate at 90 minutes were 42%, at 120 minutes were additional 18% and at 120 minutes were additional 11%. Echo was done to all the patients before thrombolysis, 24 hours, before discharge and at 1 month. Ejection fraction in all the groups was comparable with insignificant P value. But EF after 120 minutes was comparatively low. Coronary angiogram was done to all the patients within 24 hours after thrombolysis. The TIMI flow also was comparable in all the three groups. In analysis we found that 90 minutes group were younger age group and had high percentage of single vessel disease. The other two groups were little older and had two vessel and triple vessel disease compared to 90 minutes group.

Conclusions: Success rate of thrombolysis with streptokinase at 90 minutes was 42% only but at 120 minutes there were additional 18% and at 120 minutes were additional 11% patients with successful thrombolysis.

Clinical and angiographic profile of ACS patients and their short-term outcomes

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Background: Spectrum of ACS patients is variable across geographical areas and also in various institutes in same area.

Methods: ACS patients were evaluated for presenting clinical features, risk factor profile, in-hospital course and 6-month outcome.

Results: 516 ACS patients were enrolled, 30.8% STEMI and 69.2% NSTMI/UA. 65.1% were male and 34.9% female. Median age was 56years. STEMI 53yrs and NSTMI/UA 59 yrs.

52.5% patients were smoker, 63.5% in STEMI & 47.6% in NSTMI/UA group. 36.6% patients were diabetic & 35.6% were hypertensive. 41.3% were Dyslipidaemic 33.3% in STEMI and 44.8% in NSTMI/UA group. Peripheral vascular disease was found in 7% patients. 6% patients had family history of CAD. 15.3% and 10.4% were post PTCA & post CABG respectively.

1.4% patients presented with cardiac arrest (STEMI 3.1% & NSTMI/UA 0.5%). 3.6% patients developed cardiogenic shock [STEMI-7.5% & NSTMI/UA-1.9%], P-value <0.001. 4.4% patients developed atrial fibrillation (STEMI-5.6% & NSTMI/UA-13.6%). AV block developed in 5.3% patients (STEMI-9.4% & NSTMI/UA-3.3%). 4.3% patients had VT. Major hemorrhage occurred in 1.7% patients (STEMI- 4.4% & NSTMI-0.5%). CVA occurred in 1.7% patients [STEMI 1.8%, NSTMI/UA 0.5%]. Median hospital stay was 5 days.

81.2% patients underwent coronary angiography.38.9%, 26.8% &24.4% patients had SVD, DVD & TVD respectively, 4.8% had LMCA disease. In STEMI group more patients had SVD 45.7% as compare to NSTMI/UA group 29%, p-value p<0.001. In STEMI group 19.3% & 3.8% and in NSTMI/UA group 26.8% & 24.4% patients had DVD and TVD respectively. In-hospital death rate was 4.84%. 8.1% in STEMI & 3.3% in NSTMI/UA. Cause of death was cardiogenic shock 48%, LVF 28%, mechanical complication 8%, Arrhythmia 4%, and bleeding 4%. 6-month mortality was 6.3%, STEMI 8.9% and NSTMI/UA 5.1%.

Conclusions: ACS occurs at relatively young age in Indians. Smoking and Dyslipidaemia were most prevalent risk factors. In STEMI patients SVD is more frequent.

To validate the GRACE risk score in Indian ACS patients

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Background: Due to Geographic and racial variability of acute coronary syndrome patients, risk scores need validation for particular population.

Methods: In 516 ACS patients GRACE risk score for in-hospital and 6-month mortality was calculated according to the Eagle's original model. Index of discrimination was used to assess the performance of the GRACE score. Calibration tool was used to assess how closely the predicted event rate approximates the observed event rate.