

100 and PCSK9. Cascade screening was carried out in families with confirmed mutations. Sanger sequencing was used for screening point mutations and small insertions and deletions. For large rearrangements dosage analysis was performed by MLPA technique.

Results: Disease causing mutations were found in 32 families, while analysis is still in progress for rest of the cases. All mutations have been found in the LDLR gene. Five cases were homozygous for the LDLR mutation. One mutation, c.1587-1 G>A in intron 10 was found in four families which may represent a founder mutation in Indians. Three mutations; p.S177L in exon 4, c.2416_2417 insG; p. V806Gfs*11 in exon 17 and p. L654P in exon 16 were found in two families each. On cascade screening, 63 out of 120 (52%) family members were found to harbor the family specific mutation.

Conclusion: All FH confirmed cases were referred to the lipid/cardiology clinics for lifestyle modifications and therapeutic interventions. In cases with high cholesterols, genetic analysis confirms the disorder and that all the first degree relatives are at 50% risk of developing premature CAD. The diagnosis based on genetic studies is more sensitive and accurate than lipid analysis alone for diagnosis of FH. Cascade screening was useful in diagnosing family members with FH who were unaware of their disorder.

Clinical and Non- Invasive predictors of the presence and extent of coronary artery disease

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Background: The costs of caring for patients with coronary artery disease (CAD) are enormous. The high rates of finding normal coronaries at invasive angiography in individuals with suspected CAD clearly indicates the need for devising tools to correctly identify the patients with high probability of having obstructive CAD especially severe disease. The following study was done to identify the clinical and non invasive predictors of the presence and extent of coronary artery disease.

Methods: The study was carried at a tertiary care hospital at Shimla, Himachal Pradesh in the department of Cardiology over a period of 1 year. All consecutive patients undergoing conventional coronary angiography for suspected CAD were enrolled after obtaining informed written consent.

Results: 335 individuals underwent angiography for suspected CAD over a 1 year period. The mean age of the study population was 55.47±9.44 years and 68.6% were males. 80.2% of subjects had undergone treadmill test in the 1 month preceding coronary angiography. 25% had a carotid Doppler evaluation prior to coronary angiography. 48.9% had evidence of coronary artery disease, 37.8% had single vessel disease, 30.4% had double vessel disease, and 31.8% had three vessel disease. Left main coronary artery disease was present in 5.4%. In multivariate analysis, typical angina was the only independent predictor of the presence of coronary artery disease. Framingham risk score was an independent predictor of multivessel disease and Duke Treadmill Score was an independent predictor of disease extent and severity.

Conclusions: 51.2% of subjects undergoing coronary angiography for suspected CAD had normal coronaries. Typical angina was the

only independent predictor of coronary artery disease on angiography. Framingham risk score and duke treadmill score were independent predictors of disease severity.

Characteristics, treatment and 30 day outcomes of ST elevation myocardial infarction in a sub-urban Indian tertiary care centre

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Background: STEMI is a major cause of death in India. Data on STEMI is scarce in the Indian population. This study determined the characteristics, treatment and outcomes of STEMI in an Indian sub-urban tertiary care Centre.

Methods: We carried out a prospective observational study of 709 consecutive STEMI patients hospitalized between January 2013 and December 2013 in Sri Venkateswara institute of medical sciences, Tirupati. Patient characteristics, angiographic features, complications and 30-day outcomes were determined.

Results: The mean age of patients was 54.02±11.57 years. Males were 570(80.39%). Diabetes and hypertension were present in 223(31.45%) and 267(37.66%) respectively. 352(49.65%) were smokers while 196 (27.64%) were alcoholics. 53(7.47%) had past coronary artery disease (CAD) history and 8 (1.13%) had family history of CAD. Only 166 (23.41%) used ambulance to come to hospital while 50.9% used private vehicles and 3.94% used two wheelers. 68(9.59%) patients had renal dysfunction. Mean ejection fraction was 45.23±8.84%. AWMI, IWMI and PWMI were present in 61.55%, 38.10% and 0.35% respectively. Single vessel disease, double vessel disease and triple vessel disease was present in 66.1%, 26.1% and 7.7 % respectively. Infarct related artery was LAD, LCX and RCA in 287 (65.23%), 37 (8.41%) and 116 (26.36%). GpIIb/ IIIa inhibitors were used in 227(32.01%). Angioplasty was done in 508(71.65%) while 329 (64.76%) had DES and 179 (35.24%) had BMS. Average stent length and stent diameter were 20.04±7.57 mm and 2.97±0.52 mm respectively. 115(27.1%) had thrombolytic therapy, 284(40.05%) patients underwent primary angioplasty and 399 (32.85%) presented out of window period. Overall CABG rate was 12.2%. 30 day mortality was 4.93% including 1.41% in primary angioplasty group and 6 had reinfarction.

Conclusions: STEMI patients tend to be younger than in developed countries. Few patients utilized ambulance while most used private transport. Coronary angiography and primary angioplasty are being increasingly performed. Mortality was comparable to developed countries. Increased use of evidence based therapy, compared to CREATE registry. Mortality can be further decreased by the use of emergency transport services, public awareness and increased performance of primary angioplasty.

Intensive dose of rosuvastatin (40 mg/day), initiated early and continued for 12 weeks, in 'very high' risk or 'high' risk Indian patients

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Background: Intensive lipid-lowering statin regimen provides greater protection against death or major cardiovascular (CV) events in patients having an increased CV risk. No clinical study has evaluated the efficacy and safety of intensive lipid lowering with 40 mg/d rosuvastatin in Indian patients.

Methods: This was a 12-week, open-label, non-comparative, multicenter study assessing the efficacy and safety of intensive dose of rosuvastatin, 40 mg/d, initiated early and continued for 12 weeks, in 'very high' risk or 'high' risk patients, according to NCEP ATP III guidelines, in Indian patients. Primary outcome measure was percentage change from baseline in LDL-C. Secondary efficacy measures were changes in lipid parameters, hs-CRP, and proportion of patients achieving NCEP ATP III goals. Safety measures included assessment of HbA1C, eGFR, CPK and liver enzymes.

Results: 112 patients completed 12-weeks follow-up. Reduction in LDL-C at 12 weeks compared to baseline was significant with mean percentage reduction of 35.6% ($p < 0.001$). Mean percentage reductions in TC (23.2%) and TGs (18.6%) were significant ($p < 0.001$) at 12 weeks. Non-significant improvements (1.3%) in HDL-C were noted at week 12. 81.8% of the high risk patients and 56.5% of the very-high risk patients achieved the NCEP defined LDL-C goals. During the follow-up of 12 weeks no MACE were noted. No differences were noted in the HbA1C (mean change, 0), eGFR (mean change increase, 1.0) at week 12. No clinically significant elevations of CPK and liver enzymes were noted during the study period. A total of 8 AEs (myalgia, 5; myopathy, 3) were reported. Only one patient with myalgia had an elevated CPK enzyme above the normal limit, however the elevation in CPK was < 2 ULN.

Conclusion: This study demonstrated the efficacy and safety of 40 mg/d rosuvastatin in a heterogenous group of 'very high' risk or 'high' risk patients.

Trial registered: CTRI/2014/01/004269.

Morphology of recanalized infarct related coronary arteries

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Background: In acute myocardial infarction (AMI) recanalization happen spontaneously and after thrombolysis. Preinfarction angina, thrombus load and collaterals are important predictors of recanalization. This study analyzes the morphology of recanalized infarct related artery (IRA).

Aims: Aim of the study is to assess the morphology of recanalized IRA in AMI after thrombolysis and to find any particular morphology is associated with recanalization.

Methods: We retrospectively evaluated 22 consecutive patients in Rajiv Gandhi Government General Hospital who underwent

coronary angiogram after thrombolysis for AMI between may 5 to July 30.

Results: Among the 22 patients 8 patients has normal epicardial coronaries with minimal luminal irregularities. 14 patients has residual lesions like discrete lesion 30-50% (11), tandem lesions (2), plaque (1), thrombus containing lesion (0). TIMI 3 flow observed in 19 patients TIMI 2 flow observed in 3 patients.

Conclusion: In IRA lesion morphology is variable; it ranges from near normal to partially recanalized lesion. In some of the cases even luminal irregularities were unable to made out. Thrombus load was not significant in any of the lesions. Intra vascular ultra sonography and optical coherence tomography will throw more light on these lesions.

High risk Dukes score as predictor of multivessel CAD on coronary angiography

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Objectives: To study the statistical significance of dukes score on exercise treadmill test as predictor coronary angiography results.

Methods: Stress electrocardiograms, were obtained in 344 subjects who underwent cardiac catheterization and standard Bruce ETT ≤ 6 months before catheterization. Dukes treadmill score (DTS) calculated as $DTS = \text{exercise time} - 5 \times (\text{amount of ST-segment deviation in millimeters}) - 4 \times \text{exercise angina index}$ (which had a value of 0 if there was no exercise angina, 1 if exercise angina occurred and 2 if angina was the reason the patient stopped exercising). A Duke Score of ≤ -11 is consider as high a score of -10 to +4 as a moderate risk and a score of +5 or more as a low risk. Patients were selected as significant CAD if LMCA has $\geq 50\%$ stenosis) or $\geq 70\%$ stenosis in other coronary artery. Fisher t test was used for statistical analysis.

Results: The incidence of single-vessel disease, double-vessel disease and triple-vessel disease 36%, 31% and 24 % respectively. No significant CAD was present in 6% patients and LMCA occur in 3%. The incidence of high, intermediate and low risk DTS was 47 % , 51% and 2% % respectively . , Dukes score ≤ -11 was significant predictor multivessel and LMCA verses single vessel disease on coronary angiography ($p = 0.002$ for MVD vs SVD and $p = 0.002$ MVD+LMCA vs SVD) but not SVD verses DVD ($p = 0.17$).

Conclusions: High dukes exercise treadmill score was statistically significant predictor of significant multivessel disease or LMCA stenosis on coronary angiography.

Prognostic significance of NT-pro BNP, 3D LA volume and LV dyssynchrony in patients with acute STEMI undergoing primary PCI

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Objectives: The aim of the present study was to assess the short term prognostic significance of N-terminal pro BNP (NT-proBNP),