Conclusion: In conclusion, our findings suggest that the CHADS2, CHA2DS2-VASc, and especially CHA2DS2-VASc-HS and CHA2DS2-VASc-HSF scores could be considered predictive of the risk of severe CAD. The risk scoring systems may play an important role as predictive models because they are simple and can be easily applied by physicians without any additional costs in routine practice.

Assessment of levels of apolipoproteins in patients of coronary artery diseases

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Introduction: Although abnormal serum Lipid profile has been considered to be an important risk factor for development of Coronary Artery Disease, there are significant numbers of patients who have normal lipid profile and yet develop CAD. Recently Apolipoproteins B, Apolipoproteins A and their ratio have been shown to be better predictor of risk of developing Coronary artery disease as compared to conventional Lipid profile.
Objective: The aim of this study was to assess the levels of Apolipoproteins B and A in patients of CAD with normal lipid profile on lipid lowering therapy.
Materials and Methods: A one year cross sectional study on 1000 patients admitted in KLES Dr.PKH and MRC, Belgaum with history suggestive of Ischemic heart disease. Routine investigations including conventional Lipid profile, apo b and apo a levels and coronary angiography were done for all.
Results: Out of 1000 patients 880 (88%) patients had abnormal apo b / apo a ratio. In these patients normal coronaries were seen in 90 patients whereas 790 had CAD on angiography. Out of 870 patients with normal total cholesterol levels (<200mg%), 780 had abnormal apob/apoa ratio of which 730 (91%) had CAD. Of 690 patients with normal LDL levels (<100 mg), 580 patients had abnormal apob/apoa ratio of which 520 (91%) had CAD. In 460 patients on lipid lowering agents 430 had abnormal apo b/ apo a ratio with all of them (100%) having CAD.
Conclusion: This study ascertains the importance of apolipoproteins b and a and their ratio in relation to CAD. It substantiates the significance of the apob/apoa ratio over conventional lipid profile values for predicting CAD and its severity. Association of Apo B/Apo A ratio and CAD in patients with history of dyslipidemia on lipid lowering agents was found significant. This study has shown that statins have been effective in lowering LDL, but have not shown commensurate changes in Apo B levels. Measurement of Apo B and Apo A should be added to the routine lipid profile assessment in order to know the atherogenic potential of lipid disorders in a particular case.

Correlation of duration of diabetes with severity of coronary artery disease in patients with type 2 Diabetes Mellitus

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Background: To find out whether there is significant correlation between duration of type 2 diabetes mellitus and severity of coronary artery disease.
Methods: 100, type 2 diabetic and 100 non-diabetic subjects after meeting inclusion and exclusion criteria, admitted with symptoms of acute or chronic coronary syndrome, scheduled to undergo coronary angiogram were taken in this cross sectional study. Risk factors like BMI, hypertension, smoking, fasting sugar, HbA1c, fasting lipid profile, and urine for microalbuminuria were analyzed. Severity of CAD was assessed by syntax score. Pearson coefficient of correlation was used to analyze correlation between the variables. P value of <0.05 will be taken as significant.
Results: BMI, hypertension and smoking were not correlating with severity of coronary artery disease. Biochemical parameters like FBS, urine for microalbuminuria were not correlating with severity of coronary artery disease but TC/HDL-C ratio was significantly correlating with severity of coronary artery disease.($p=0.04$). In terms of duration of diabetes and severity of coronary artery disease, It was not correlating but as compared to non-diabetics, diabetics had higher syntax score ($p < 0.001$) and more numbers of TVD (Triple Vessel Disease,($p < 0.001$). Diabetics had more numbers of total occlusion of vessel ($p = 0.02$), Calcification (0.003), Proximal vessel involvement ($p < 0.001$), CTO (chronic total occlusion, ($p = 0.02$) and Diffusely disease vessels ($p < 0.001$), as compared to non-diabetics.
Conclusion: In our study except TC/HDL ratio, none of the parameter was statistically significantly associated with severity of coronary artery disease in diabetic population. Duration of diabetes was not correlating with severity of coronary artery disease. Diabetics had more numbers of TVD, Total occlusion of vessel, CTO, proximal vessel involvement, calcification and diffusely diseased vessel.

Factors associated with normal coronary arteries in patients with type 2 Diabetes Mellitus for more than 10 years of duration

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Background: In spite of severe CAD generally associated with diabetes mellitus, some patients remain free of CAD even after many years of treatment for diabetes.Study of risk factors associated with such favorable CAD profile will help in identifying these low risk patients and also to control these factors in diabetic patients.
Methods: A case-control study of 63 patients with type 2 diabetes mellitus who were on treatment for more than 10 years duration and undergoing a coronary angiogram for the evaluation of CAD at a tertiary care hospital were recruited from January 2014 to June 2014. Presence and absence CAD was assessed by syntax score. Clinical history, anthropometric parameters and biochemical parameters were analyzed. IR was determined by Homeostasis model assessment (HOMA-IR). Multiple logistic regression after adjusting for age, sex and other conventional risk factors of CAD for the absence of CAD.
Results: The difference in HOMA-IR (2.27 ± 0.60 VS 3.87 ± 1.64, $p < 0.001$) and urine microalbumin (15.57 ± 14.51 VS 78.72 ± 119.09, $p = 0.004$) were stastically significant among those who had CAD when compared to those who did not have CAD. The difference in lipid profile, HbA1C, fasting blood sugar, BMI, Waist hip ratio, waist and hip circumference were not significant. The adjusted

odds ratio for insulin resistance less than 2.5 [OR - 110.66, 95%CI - 7.24 to 1691.48], urine microalbumin less than 20 (OR – 35.10, 95% CI – 2.85 to 432.26), waist circumference less than 96(OR – 54.86, 95%CI – 1.30 to 2314.54) and females (OR – 23.53, 95% CI – 2.11 to 262.19) were associatedwith normal coronaries. The adjusted odds ratio for lipid profile, BMI, hypertension and HbA1C were not significant.

Conclusion: IR less than 2.5, microalbuminuria less than 20 and waist circumference less than 96 are associated with normal coronaries even with the absence of comparable lipid and glycemic parameters.

Prognostic significance of coronary sinus filling time in predicting cardiovascular events in patients with angina and normal coronaries at one year follow up

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Background: Coronary sinus filling time (CSFT) has been proposed as a simple method for assessment of coronary microvascular function in patients with angina and normal coronaries. Its correlation with inducible ischemia and prognostic significance has not been studied. Present studyassessed theprognostic significance of CSFT.

Methods: We compared CSFT of patients with angina andnormal coronaries with that of control population. Baseline treadmill test (TMT) parameters were assessed. Patients were followed up for one year and a composite of cardiovascular mortality and non-fatal myocardial infarction wasanalyzed.Patients presenting to emergency or outpatient department with recurrent chest pain symptoms during one year follow up was considered for secondary outcome analysis. Coronary sinus filling time was analyzed with respect to cardiovascular events, repeat hospitalization for recurrent angina and TMT parameters.

Results: Total 72 patients and 16 controls were studied. Mean CSFT value in the study group was 5.31 ± 1.03sec and in the control group was 4.16 ± 0.72sec and the difference was significant (p value = 0.0001). No correlation was found between baseline and repeat TMT parameters with CSFT. There was no cardiovascular mortality or hospitalization for non-fatal MI during one year follow up. But patients with frequent emergency or outpatient department visits with chest pain had a high CSFT compared with asymptomatic patients (p value = 0.005).

Conclusion: Coronary sinus filling time may be used as a simple marker of microvascular dysfunction in patients with angina and normal coronaries.Patients with recurrent chest pain symptoms after one year follow up were found to have high CSFT compared to asymptomatic patients.

Clinical profile of ventricular tachycardia in patients with acute myocardial infarction

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Background: Ventricular tachycardia is an important complication of acute myocardial infarction, and prior to continuous monitoring, the incidence of this arrhythmia was estimated as one to two percent. This study was undertaken to evaluate the clinical significance of ventricular tachycardia as a complication of acute myocardial infarction in a tertiary care hospital.

Methods: All patients admitted to the Coronary Care Unit of our centre between February 2014 and June 2014, formed the basis of the study. Of 230 total patients, 168 were considered to have acute myocardial infarction. Criteria for the diagnosis of myocardial infarction were at least two of the following: pathological Q waves associated with S-T segment elevation and subsequent evolutionary changes of the S-T segment and T wave, elevation of CPKMB, a typical clinical history. The onset of infarction was timed with the occurrence of precordial chest pain or increased severity and frequency of chest pain in patients with pre-existing angina. Continuous electrocardiac monitoring was initiated immediately on admission to the unit and continued until 96 hours. All arrhythmia records were obtained by manual activation of the monitor system by resident doctors.

Results: Out of 168, 140 patients were thrombolysed with streptokinase 1.5 MU, 28 patients were not thrombolysed. Patients with age between 31 to 73 years were included in study. Average age of patients-51.2 years. Type of Ventricular arrhythmias affect prognosis of patients. Ventricular fibrillation had nearly 80% while ventricular tachycardia had 38.8% mortality. Patients with heart failure and shock had high mortality rate. Ventricular tachycardia's with time of onset > 24 hrs had worse prognosis than those with < 24 hrs. AWMI had more chances of ventricular arrhythmias than IWMI. Ventricular arrhythmias were significantly high in non thrombolysed group (28.5%) as compared to thrombolysed group of patients. Patients with low EF had ventricular fibrillation with mortality 100%.

Conclusions: Type of Ventricular arrhythmias affect prognosis of patients. Ventricular tachycardia's with time of onset > 24 hrs had worse prognosis than those with < 24 hrs.

Outcome of patients presenting with acute coronary syndrome with vitamin D deficiency

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Background: Vitamin D deficiency, described as 'Novel Risk factor' for cardiovascular diseases, has been found to be associated with adverse outcome after acute coronary syndrome (ACS) & cardiac surgery. With insufficiency of this vitamin reaching above 90% in Indians, it shall be interesting to study its relationship with ACS outcome.

Methods: We studied impact of Vitamin D Deficiency/insufficiency on MAACE during hospitalization & up to 6 months after discharge in patients of ACS admitted to our ICCU. Vitamin D levels were estimated (ELISA) in two groups - Gp I included 117 patients of ACS and Gp-II- 100 age/sex matched healthy controls.

Results: In the study Gp, Vitamin D levels were insufficient/deficient (25-75 nmol/L) in 109 patients (93 %) while this figure in healthy adults was 88 pts (88%). The mean age of study group was 49.4 + 10.9 years &majority was male. Of 117 patients, 22 presented with unstable angina and 95 with STEMI. All patients of STEMI were thrombolysed. The study gp was divided into Vit D deficient and sufficient subgroupsto study the MAACE as shown below.