Correlation of Treadmill stress test with coronary angiography in patients with coronary artery disease using Selzer’s criteria

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Introduction: Treadmill stress test is the most commonly performed stress test for diagnosis of coronary artery disease in hospital setting. Present study was conducted to find correlation of Treadmill stress test (TMT) with coronary angiography in coronary artery disease patients.

Methods: 132 clinically evaluated patients of coronary artery disease (CAD) were enrolled in present study. Treadmill test was done using Bruce protocol and results were evaluated as mildly, moderately, and strongly positive for inducible ischemia using standard Selzer’s criteria.

Results: Of 132 patients enrolled in present study, 103 (78%) were males and 29 (32%) were females. Clinical presentation was angina on Exertion CCS Class II–III in 121 (91.6%) patients and angina equivalent in 11 (9.4%) patients. Out of these, 24 (12.8%) were diabetic, 43 (32.6%) were hypertensive, 24 (18%) had mildly positive stress test for inducible ischemia while 65 (49.2%) and 42 (31.8%) moderately and strongly positive for inducible ischemia, respectively. Coronary angiograms were normal in 71 (53.7%) patients and sluggish flow noted in 21 (15.9%) patients. Single vessel disease, double vessel disease, and triple vessel disease were found in 13 (9.8%), 7 (5.3%), and 6 (4.5%) patients. Of 24 patients with mildly positive stress test, 15 (62.5%) had normal coronaries, 2 (8.3%) had sluggish flow, 4 (16.6%) had single vessel disease while 1 (4.2%) had non-significant obstruction. Of 65 patients with moderately positive stress test, 42 (64.6%) and 9 (13.8%) had normal coronaries and sluggish flow, respectively. Single vessel disease, double vessel disease, and triple vessel disease were noted in 4 (6.2%), 3 (4.6), and 3 (2.3%) patients. Out of 42 patients with strongly positive TMT, 12 (28.6%) had normal coronaries, 11 (26.2%) had sluggish flow, while 5 (11.9%) had single vessel disease. DVD and TVD were found in 4 (9.5%) and 3 (7.1%) patients. Thus out of 132 patients with positive stress test 71 (53.8) patients had normal coronary angiogram while 61 (47.2%) had abnormal coronary angiogram.

Conclusion: Treadmill stress test using Selzer’s criteria was found to have low sensitivity for picking up significant coronary artery disease. Large numbers of normal coronaries angiograms may be ascribed to coronary vasospasm. More so hemodynamic response like heart rate recovery, systolic pressure response, and double product reserve should be considered while evaluating results of Treadmill stress testing.

Clinical profile of acute coronary syndrome in young adults of north Indian population

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Background: Acute coronary syndrome (ACS) in young adults (<35 yrs) considered as an uncommon entity, recently shows a rising incidence especially in India, because of increased tobacco use and western life style. The purpose of this study is to assess clinical profile of ACS in young patients.

Materials and methods: This is a prospective analytical study and included patients with ACS (<35 yrs) attending the Casualty Department, of S.S. Hospital, IMS, BHU, Varanasi during January 2013 to December 2014. Data collected included the history, risk factors, mode of presentation, duration of symptoms, treatment received, and investigations done, i.e. lipid profile, homocysteine, blood sugar, CKMB, Trop T, ECG, Chest X-ray, 2D-echo, CAG.

Results: Among the total 310 patients with ACS, 51 (16.4%) were very young adults. Youngest one was 15 yrs old with coronary anomaly. Mean age was 30.2 yrs (±3.6) and only 17.6% (n = 9) were obese. Patients reached the hospital with median delay of 8.5 hrs. Smoking (80.4%) and male sex (90.2%) were the major conventional risk factors followed by low HDL (59%). Family history of premature coronary was event seen in 13.7%; hyperhomocysteinemia, elevated Lp(a) and high fibrinogen were observed in 19.6%, 29%, and 3% respectively. Anterior wall MI with LAD occlusion was the commonest type (68.6%). Only 2 had undergone primary PCI (3.9%); 64.7% (n = 33) received thrombolytic therapy. Median delay for angiogram was 72 hrs (3 days). Angiographically majority (53.4%) had SVD and 31% had recanalised vessels. Coronary anomaly was seen in 2 (3.9%) patients and pure ectasia in 1 (1.2%) patient. Mean EF was 44% (±7). In hospital mortality was 3.9%.

Conclusion: Our observation showed obstructive CAD in 56.9% of young ACS patients (<35 yrs). This rapid progression of atherosclerosis in Indians is not simply due to conventional risk factors alone but due to complex interaction of both conventional and novel risk factors. Patients often presented with typical presentation of ACS, had different risk factor profiles, received early aggressive treatment, and had favorable outcomes. Primary prevention of smoking/tobacco, dyslipidemias, and overweight should be more aggressively promoted in young. Significant admission and therapeutic delay implicate the need of active strategies to protect these patients.

Prevalence of metabolic syndrome (MS) in coronary artery disease (CAD) patients of north India

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Background: Incidence of coronary artery disease (CAD) is increasing in Asian countries; 15% of global mortality due to CAD is contributed by India. Traditional risk factors such as age, sex, dyslipidemia, diabetes mellitus (DM), and hypertension (HTN) cannot explain such high incidence of vascular atherosclerosis. So the world today is in search of new risk factors. Metabolic syndrome (MS)/insulin resistance syndrome (IRS) may be one of them. MS is a constellation of metabolic factors cluster for CAD and DM. MS has not been studied in detail in north Indian CAD patients.

Aims: This study was conducted to see the prevalence of MS and factors predicting MS in CAD patients.

Methods: We conducted this study on 120 patients of confirmed CAD and 80 controls. Each patient had undergone anthropometric measurements, fasting blood sugar (FBS), fasting insulin, and lipid profile estimation. Insulin resistance was estimated by HOMA model. MS was diagnosed as per modified ATP III criteria (at least 3/5 features).

Results: MS was present in 89/120 (74%) of CAD patients (mean age 54.4 ± 9.2 yrs). Patients with MS were significantly older, had...
Perspectives on the presentation, treatment, and outcomes of acute coronary syndromes in India: A prospective analysis of registry data from a major center in Uttar Pradesh

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Background: Despite India being the CAD capital of the world, no large study in recent past has been conducted on the patterns of presentation and management of coronary syndrome in largest study of India, Uttar Pradesh. Present study was conducted to highlight the same problem and recent trends in presentation and management of ACS patients in a major tertiary center of Uttar Pradesh catering to a large population.

Methods: We did a prospective registry study in the Department of Cardiology. All 3500 successive patients presenting with acute coronary syndrome to the Emergency Department between July 2014 and August 2015 were included and data analysed for various factors.

Results: Out of all patients, 11% were young patients of <40 years age, 28% were diabetics, 33% were hypertensives, and 17% had BMI >30. Of all ACS, 61% had NSTEMI/UA while the rest 39% had STEMI. Of all STEMI who were hospitalized only 18% had primary PCI done while another 22% were thrombolysed and 20% taken up for pharmacoinvasive approach. Thus 40% patients of STEMI patients could neither be thrombolysed nor could they be given benefit of PCI. Amongst NSTEMI patients, 58% underwent PCI. Of all ACS patients who were taken up for CRT±8% were advised CABG. In-hospital mortality was 11.5% overall.

Conclusions: Even today only 60% of hospitalized STEMI patients get benefit of reperfusion therapy with only 18% undergoing primary PCI. In-hospital mortality still remains high to 11.5% due to delayed presentation of MI. Thus, to improve the chain of survival for ACS, a highly integrated strategy is required beginning with patient education about the symptoms of ACS and early contact with the medical system, coordination of destination protocols in emergency medical services (EMS) systems, and efficient practices in emergency departments to shorten door-to-reperfusion time.

Prevalence and predictors of occult left ventricular diastolic dysfunction in elderly

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Introduction: Because the process of myocardial remodelling starts before the onset of symptoms, recent heart failure (HF) guidelines