

≥ 74 were categorised as severe, and remaining patients were categorised as moderate. The median PLR, NLR, and non-HDL cholesterol was calculated for each subgroup and were compared using Mann-Whitney *U*-test.

Results: We have observed significant correlation between PLR and Gensini score (with Spearman's coefficient of $r = 0.727$, $p < 0.05$) as well as NLR and Gensini score (with Spearman's coefficient of $r = 0.627$, $p < 0.05$). However a correlation could not be established between non-HDL cholesterol levels and Gensini score ($r = -0.49$).

The median values of PLR and NLR were significantly higher in the severe group compared to the mild and moderate groups with $p < 0.01$ for both PLR and NLR. Non-HDL cholesterol levels were not found to be significantly high or low among the subgroups.

Conclusion: We have established statistically significant correlation between PLR and NLR with severity of ACS. We recommend the use of PLR and NLR as markers for severity of ACS. Non-HDL cholesterol cannot be used as a marker for severity of ACS. Larger studies are required for further evaluation of these markers as a tool for assessing severity of ACS.

Prevalence of significant coronary artery disease in patients who undergo heart valve surgery in a superspecialized cardiac centre in Bangladesh



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Background and aims of the study: The presence of significant atherosclerotic coronary artery disease (CAD) in patients with valvular heart disease is an important predictor of perioperative mortality. The prevalence of CAD in patients undergoing valvular heart surgery is 20–40% in developed countries. We aimed to see CAD prevalence in our population undergoing valvular heart surgery.

Methods: A total of 1500 patients (1000 males, 500 females; mean age 52.5 ± 12.9 years) who underwent coronary angiography before valvular surgery between August 2003 and June 2012 was enrolled retrospectively. Single valve and multiple valve involvement were present in 43% and 56% of patients, respectively. Patients with ischemic mitral regurgitation were excluded from the study. Significant CAD was defined as the presence of $\geq 50\%$ diameter stenosis in any one of the coronary arteries. The presence of angina pectoris and of risk factors (e.g. hypertension, smoking, diabetes mellitus (DM), hyperlipidemia, family history of CAD) were sought in all patients.

Results: Significant CAD was present in 16% of patients (24% males, 9% females) ($p < 0.001$); the highest prevalence was in those with aortic stenosis ($p < 0.05$). CAD was not seen in young patients (aged < 45 years) with none of the above-mentioned risk factors. The highest correlation between CAD and risk factors was family history of CAD, followed by DM, hyperlipidemia, hypertension, and smoking in decreasing order.

Conclusion: The study results showed that CAD in patients with valvular heart disease was less prevalent in our population. The incidence of coronary lesions rises notably from the age of 50 years in both males and females. Coronary angiography before valvular heart surgery could be omitted in young patients (age < 45 years) with none of the coronary risk factors, or without angina.

Demographics and clinical outcomes of stent restenosis following PCI from a tertiary care referral institute in South India



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Background: Despite major advances in coronary hardware, particularly the newer generation DES, in-stent restenosis (ISR) following stent implantation is considered the Achilles' heel in PCI treatment of CAD. We sought to study demographics and clinical outcomes of stent restenosis following PCI from our Institute.

Methods: Patients who underwent PCI between Jan 1 2001 and Dec 31, 2014 at SSSIHMS, Whitefield, Bangalore and returned with symptoms suggesting ISR were evaluated as per demographic parameters, functional status, comorbidities, and echocardiographic parameters, including LVEF, angiographic, and angioplasty details including type of stent and treatment offered. These were collected at baseline, and at 9th month follow-up, and till last known follow-up with us. When patient returned for a second suspected ISR, they were similarly reevaluated. Angiographic ISR was classified as per Mehran classification applied to both BMS and DES.

Results: 14,634 patients underwent PCI in the above period, of whom latest clinical and echocardiographic follow-up was available in 8317 patients (56.5%). Of these, 371 PCI patients (4.7%) needed a second procedure for clinical and/or angiographic restenosis (255 patients underwent PCI and 116 patients, CABG). Mean age of patients was 56.3 ± 9.1 years. Mean LVEF was $48.5 \pm 7/5\%$ during presentation. Among the 371 patients, 217 had a BMS implanted initial PCI, 124 had DES implanted, and 30 had only POBA as the initial PCI. The average stent dilation pressure was 14 ± 4 atm, post dilation was done in $> 90\%$ of patients at an average 17 atm pressure. Among the 371 patients, average time from PCI to first readmission for restenosis was 334 ± 34 days in CSA patients (11–12 months) and for ACS patients, 227 ± 18 days (7–9 months), $p < 0.01$. CSA was the commonest presenting complaint with ISR ($n = 298$) and 73 patients (19.5%) presented to us or elsewhere with documented ACS (UA = 54, STEMI = 7, NSTEMI = 22). Among the DES, the initial implanted stent was SES in 51, PES in 69, and ZES in 4.

The earliest readmission for ISR causing a SAST was 91 days (3 months, 1 day) in a diabetic patient. On propensity-based univariate analysis, restenosis was more common in diabetics of > 5 years duration irrespective of HbA1C status. Also, average stent size was 2.5 mm vs larger diameter, and interestingly, when stent size was > 2.75 mm, stent length > 24 mm became the strongest predictive factor for future ISR. Male gender, PCI in bifurcation lesions with two-stent strategy (any technique) vs single stent strategy, and PCI in CTO lesions, PCI done in low EF ($< 35\%$) were predisposing factors to development of ISR.

The type of ISR as per Mehran angiographic classification was focal in 92, proliferative in 142, and total in 109 in the first event of ISR. BMS usage was significantly associated ($> 90\%$ case) with type III/IV proliferative ISR and more likely needed CABG in repeat admissions while DES ISR was more likely to be focal (72% cases) and was treated with balloon angioplasty (POBA and scoring balloon in 51). For the 371 ISR patients, repeat DES stenting was done as SES = 144, PES = 76, EES = 15, ZES Endeavour = 16. 18 underwent POBA alone to ISR lesion, 80 were treated with repeat BMS stenting with cutting balloon-plasty, and 4 patients were treated with DEB and BMS. For second restenosis, of the 223 patients available till last follow-up, 91 underwent a third angioplasty (75 with DES-SES = 66, EES = 5,

ZES = 4) and 154 patients were referred for CABG after angiography due to higher grades of ISR (proliferative and total in 165, $p < 0.001$). Interestingly in 31 cases of DES stenting, new lesions formed alongside with DES ISR. The mean time to next ISR was 9.5 ± 3.5 months and was significantly lesser ($p < 0.01$) compared to time to first ISR irrespective of DES stent type for the first ISR.

Conclusions: ISR occurs significantly earlier in stenting in ACS situations than for SIHD. BMS usage was significantly associated with higher grades of proliferative ISR and more likely needed CABG while DES ISR was more likely to be focal. CSA was the commonest presenting complaint with ISR. Other predictors were smaller stent size (2.5 mm) and longer stent length >24 mm, male gender, complex PCI in bifurcation lesions with two-stent strategy (any technique), PCI in CTO lesions, PCI done in low EF ($<35\%$). However, no relation of future ISR was seen with the use of same or hetero-DES after the first ISR episode among DES usage.

Limitations: Only 57% of patient follow up data was available. Also, IVUS/OCT usage was not done for patients due to lack of availability.

Rare presentation of coronary aneurysm



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Coronary aneurysms are rare and only few case reports are noted for giant coronary aneurysms. We recently had an asymptomatic adult male patient with a giant coronary aneurysm.

A 62 years old male patient of no cardiac symptoms and no coronary risk factors was presented. Underwent routine cardiac evaluation prior to applying for health insurance. Echo showed well defined circumscribed shadow in the right atrium. CT coronary angiogram showed multiple coronary aneurysms and a giant one arising from proximal RCA measuring $5.22 \text{ cm} \times 4.12 \text{ cm}$. After conventional coronary angiogram he underwent aneurysm ligation and SVG graft to distal RCA successfully.

Study of association of neutrophil lymphocyte ratio with prognosis in patients with acute coronary syndrome (ACS)



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Introduction: We prospectively collected data of all patients with ACS (both STEMI & NSTEMI) presenting to our Department of Cardiology from June 2014 to May 2015. Patients with any systemic infection, cancer, or any known chronic inflammatory diseases were excluded. Patients were divided into three groups according to NLR. The primary end point was all cause mortality at the end of 1 month.

Results: Total 456 patients with ACS (both STEMI & NSTEMI) were included in the study. The mortality in three groups were 5, 9, and 13% respectively in low, medium, and high NLR groups.

Baseline characteristics are shown in table.

Baseline characteristics	Low	Medium	High	p value
	N = 152 NLR < 1.6	N = 152 NLR = 1.6-2.9	N = 152 NLR > 2.9	
Age (mean) (%)	62 (32-78)	60 (35-82)	68 (24-86)	0.849
Male %	72.1 (108)	73.68 (112)	75.65 (115)	0.298
Hypertension (%)	43.42 (66)	46.05 (70)	48.68 (74)	0.268
Diabetes Mellitus (%)	32.23 (49)	36.18 (55)	40.78 (62)	0.564
LVEF%	55 (30-70)	55 (25-70)	45 (25-60)	0.496
Neutrophil (100/mm ³)	4.5 (2.5-17.1)	5.6 (1.6-13.25)	6.9 (3.1-17)	<0.001
Lymphocyte (100/mm ³)	3.2 (0.72-17)	2.5 (0.4-4.93)	1.42 (0.48-4.2)	<0.001
NLR	1.4 (0.5-1.6)	2.41 (1.6-2.9)	4.1 (2.9-12.9)	<0.001

All statistical analyses were performed using the SPSS program. Quantitative variables were expressed as the median (interquartile range), and qualitative variables were expressed as percentages (%). Categorical variables were compared by chi square test. The median age of patients included in this cohort was 64 years with males consisting of over 2/3 of patients. Prevalence of patients having high NLR ratio increases as the prevalence of diabetes mellitus and hypertension increases. Patients with high NLR ratio have systolic dysfunction with consequent poor prognosis & mortality.

Conclusion: Total and differential leukocyte count are basic and inexpensive analyses in patients with ACS. NLR is an independent predictor of high risk in patients with ACS, hence it should be used in risk stratification of patients with ACS.

Glomerular filtration rate as risk predictor of short-term hospital mortality of acute coronary syndrome



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Introduction: Cardiovascular disease is the leading cause of death among patients with chronic kidney disease (CKD). Recent studies have confirmed that even early CKD constitutes a significant risk factor for cardiovascular events and mortality. Many trials have evaluated the prognostic value of renal impairment in acute coronary syndrome (ACS) using serum creatinine level above the normal limit as an indicator of renal impairment. From our current knowledge we know that glomerular filtration rate (GFR) is a better index of renal function. There are numerous formulae and equations for estimating the GFR, the most precise one is the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI formula).

Aims and objective: Our study was planned to determine the relationship between GFR at the time of admission and the in-hospital mortality in patients with ACS whose baseline creatinine level was within normal limits and to evaluate influence of diabetes on the same.

Methods: This study included 59 patients with ACS admitted to the CCU of Minia University Hospital in Egypt. Only ACS patients with serum creatinine level of $\leq 1.3 \text{ mg/dl}$ were included. For each patients, age, sex, presence of cardiovascular risk factors such as diabetes mellitus, smoking, HTN, dyslipidemia, family history of premature CAD, and any background of IHD were collected. Hemoglobin and baseline creatinine level, TLC, RBG, troponin I were determined at admission. Estimation of GFR using CKD-EPI formula and Mayo Clinic formulae were calculated. The Killip class