



## Interventional Cardiology

### PP-354

#### Baseline SYNTAX Score Predicts Long Term Mortality in Elderly ( $\geq 70$ ) Patients Treated with Primary Angioplasty

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**AIM:** SYNTAX (SX) score is related to increased mortality in the course of acute ST elevation myocardial infarction. SX score is expected to be higher in elderly patients. We investigated the effect of SX score which is already elevated over short and long

term adverse cardiovascular events (death, stroke, reinfarction and rehospitalization) in patients treated with primary percutaneous coronary intervention (p-PCI).

**Study Design:** The presented study has a retrospective data collection and prospective follow-up design. The study population consisted of 607 elderly ( $\geq 70$ ) patients who admitted to our emergency department within first 12 hours of chest pain between January 2006-February 2010 and underwent p-PCI. The patients were investigated in 3 groups according to baseline SX score (Tertile I  $<15$ , n=213), tertile II 15-20, n=243, tertile III  $>20$ , n=151).

**Results:** SX score ( $12.1 \pm 2.1$  vs  $18.1 \pm 1.7$  vs  $24.8 \pm 4.5$ ,  $p < 0.001$ , respectively) and age ( $72.9 \pm 4.1$  vs  $74.7 \pm 4.4$  vs  $76.9 \pm 4.7$ ,  $p < 0.001$ ) were significantly higher in the tertile III group. Also diabetes and chronic renal failure were more common, C-reactive protein level on admission was significantly higher and post procedural left ventricular ejection fractions were significantly lower in tertile III group. While in hospital mortality was highest in tertile III (13.9% vs 7.8% vs 5.2%,  $p = 0.011$ ), stroke and reinfarction rates were similar between three groups. During long term follow-up (53 months median follow-up time) all cause mortality (49% vs 30.9% vs 20.2%,  $p < 0.001$ , respectively), reinfarction (14.4% vs 8.5% vs 6.4%,  $p = 0.042$ , respectively), stroke (6.8% vs 3.6% vs 1.5%,  $p = 0.04$ , respectively) and rehospitalization due to worsening heart failure (16.8% vs 12.2% vs 8%,  $p = 0.049$ , respectively) were significantly higher in the tertile III group. High SX score (tertile III) was an independent predictor of long term all cause mortality in the Cox-proportional hazard model (Hazard Ratio 1.97, 95% CI 1.26 – 3.09,  $p = 0.003$ ).

**Conclusion:** Elevated SX score is related to increased in-hospital and long term all cause mortality and ischemic events in elderly patients and it is an independent predictor of mortality.

### PP-355

#### The Predictive Value of SYNTAX Score for Periprocedural Myonecrosis Prediction

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**Background:** Periprocedural Myonecrosis (PPMN) during percutaneous coronary intervention (PCI) is common and related with adverse cardiac event. However there are limited data about the PPMN predictors. The aim of this study was to investigate the ability of SYNTAX score to predict PPMN in patients undergoing elective PCI for stable angina.

**Methods:** A total of 172 patients with stable angina scheduled for elective PCI was included the study. Cardiac Troponin I (cTnI) levels were measured at baseline and at 6, 12, 24 and 48 hours after PCI. The primary end-point was the occurrence of PPMN defined as any cTnI elevation above the Upper Normal Limit (UNL). The occurrence of Periprocedural Myocardial Infarction (PPMI), was defined as a postprocedural increase in cTnI level  $\geq 5$  times above the UNL.

**Results:** The incidence of PPMN was 22.7% (39 of 172 patients) and the incidence of PPMI was 4.7% (8 of 172 patients). Mean patient SYNTAX score was higher in patients with PPMN ( $13.2 \pm 6.7$  vs.  $9.5 \pm 5.2$ ,  $p < 0.001$ ) and PPMI ( $16.5 \pm 7.2$  vs  $10.0 \pm 5.6$ ,  $p = 0.002$ ). By ROC analysis, a patient SYNTAX score of  $\geq 11$  predicted PPMN with a sensitivity of 64% and specificity of 65%, the AUC  $0.66 \pm 0.05$  (95% CI: 0.55 – 0.77);  $p = 0.002$ , a patient SYNTAX score of  $\geq 15$  predicted PPMI with a sensitivity of 75% and specificity of 78%, the AUC  $0.76 \pm 0.09$  (95% CI: 0.56 – 0.95);  $p = 0.01$ . The SYNTAX score was a significant predictor for PPMN in univariate (OR: 1.11 (95% CI: 1.04 – 1.18);  $p = 0.001$ ) and multivariate (OR: 1.10 (95% CI: 1.03 – 1.17);  $p = 0.003$ ) logistic regression analysis.

**Conclusion:** This trial demonstrated that higher SYNTAX score is a significant predictor of PPMN and PPMI.

### PP-356

#### Quality of Life of Patients with Atrial Septal Defect Following Percutaneous Closure

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**Introduction:** Quality of life has become an important outcome measure in addition to mortality and morbidity in patients with congenital heart disease. Atrial septal defect (ASD) is a common congenital heart disease and transcatheter ASD closure has become an accepted treatment modality. The aim of this study is to assess the quality of life of ASD patients who underwent percutaneous closure.

**Materials-Methods:** We examined the quality of life of 69 ASD patients and 69 healthy controls matched according to age, sex, educational level, economic, marital and employment status (1:1 matching). Quality of life was investigated by the Turkish version of Short Form-36 (SF-36).

**Results:** The mean age of the patients was  $39.7 \pm 14.2$  and 26% were male. The quality of life assessment was performed at a mean follow-up time of  $18.0 \pm 13.8$  months after the intervention. Thirty one percent of the patients reported atypical chest pain, 16% reported palpitations and 11% reported shortness of breath at the time of quality of life assessment. Patients who had palpitations were further investigated with holter

monitoring and no serious arrhythmia was detected. The mean scores of the domains of the SF-36 namely, physical functioning, role functioning, social functioning, mental health, vitality, pain and general health were similar in ASD patients and the control group (Table 1). The only sociodemographic variable that was found to be associated with quality of life outcome parameters in the patient group was educational level. Higher educational level was significantly associated with better mental health and better general health perception ( $r=0.248$ ,  $p=0.04$ ;  $r=0.315$ ,  $p=0.008$ , respectively). **Conclusion:** Adult patients who underwent percutaneous ASD closure perceive their quality of life as good as their healthy counterparts.

**Table 1**

	ASD patients	Control group	p value
Physical functioning	73.8±20.7	73.9±27.3	0.97
Role physical	67.4±41.2	69.2±40.2	0.79
Pain	64.3±25.5	61.7±25.6	0.55
General health	60.5±25.3	62.3±20.8	0.64
Vitality	56.3±21.2	55.2±20.9	0.76
Social functioning	74.9±22.9	73.3±22.8	0.69
Role emotional	63.6±39.9	62.2±41.9	0.84
Mental health	63.7±19.0	63.6±17.5	0.96

The SF-36 domain scores in ASD patients and the control group.

**PP-357**

**Impact of Metabolic Syndrome on the Long-Term Cardiovascular Outcomes in Patients with Non-ST Segment Elevation Myocardial Infarction and Unstable Angina Pectoris**

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**Background and AIM:** Metabolic syndrome (MS) is associated with cardiovascular mortality and morbidity in patients with acute coronary syndrome. The purpose of this study was to evaluate the impact of MS on long-term clinical outcomes in patients with pure non-ST segment myocardial infarction (NSTEMI) or unstable angina pectoris (USAP).

**Methods-Results:** We prospectively enrolled 310 consecutive NSTEMI/USAP patients (74 females; mean age, 59.3±11.9 years). The study population was divided into two groups: MS(+) and MS(-). The clinical outcomes of the patients were followed for up to 3 years.

Increased 3-year cardiovascular mortality and reinfarction were observed in the MS(+) group, as compared to the MS(-) group (15 vs. 3.4%,  $p=0.001$ , and 22.2 vs. 8.3%,  $p=0.001$ , respectively). Hospitalization rates for heart failure and stroke were not significantly different between the two groups on follow-up. By a Cox multivariate analysis, a significant association was noted between MS and the adjusted risk of 3-year cardiovascular mortality (odds ratio 3.4, 95% confidence interval, 1.24-9.1,  $p=0.02$ ).

**Conclusion:** These results suggest that MS is associated with an increased risk of 3-year cardiovascular mortality and reinfarction in patients with NSTEMI/USAP.

**PP-358**

**Clinical Outcomes and Effectiveness of Renal Artery Stenting in Patients With Critical Atherosclerotic Renal Artery Stenosis: Does it Improve Blood Pressure Control and Renal Function Assessed by Estimated Glomerular Filtration Rate?**

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**Objectives:** Atherosclerotic renal artery stenosis (ARAS) is associated with uncontrolled hypertension and chronic renal failure. The aim of this study is to evaluate the influence of gender and presence of chronic renal failure on the outcomes of percutaneous transluminal renal artery stenting (PTRAS) due atherosclerosis.

**Methods:** A total of 28 ARAS patients underwent PTRAS and 36 stents were placed. Basal characteristics, laboratory data and blood pressure of patients were recorded. The differences between genders and improvement/deterioration of renal functions and blood pressure were analyzed. The predictors of outcomes were determined.

**Results:** Baseline characteristics were similar between men and women. Significant improvement of systolic and diastolic blood pressure control was achieved after PTRAS (153.04±17.07 mmHg vs. 124.75±11.40 mmHg,  $p=0.001$  and 92.50±10.76 mmHg vs. 77.54±8.23 mmHg,  $p<0.001$ , respectively) (Table-1). Although mean estimated glomerular filtration rate (eGFR) and creatinine levels did not significantly improved at 6 month follow up visit in compared to baseline values, of the 28 patients 13 (46.4%) patients had improvement of renal functions.

**Conclusion:** Our results suggests that PTRAS is a safe procedure and may offer blood pressure control but beneficial effects of PTRAS on renal function may be anticipated in selected group of patients, especially those with a low eGFR.

**Table 1**

Variable	Pre-PTRAS	Post-PTRAS	p
SP	153.04±17.07	124.75±11.40	<0.001
Men	146.92±15.88	124.08±9.00	<0.001
Women	158.33±16.76	125.33±13.43	<0.001
DP	92.50±10.76	77.54±8.23	<0.001
Men	87.31±8.81	76.31±7.93	0.001
Women	97.00±10.49	78.60±8.60	<0.001
Number of drug	3.71±0.85	2.46±0.69	<0.001
Men	3.85±0.80	2.31±0.75	<0.001
Women	3.60±0.91	2.60±0.63	0.006
Creatinine	1.13±0.31	1.13±0.31	0.150
Men	1.41±0.53	1.17±0.32	0.088
Women	1.15±0.42	1.10±0.30	0.767
eGFR	60.89±35.21	61.75±21.08	0.899
Men	62.77±31.31	70.69±22.94	0.300
Women	59.27±39.30	54.00±16.37	0.632

Table 2: Pre-Percutaneous transluminal renal angioplasty with stent (PTRAS) and at 6 month follow up results of blood pressure, medications, creatinine and estimated glomerular filtration rate. Abbreviations: PTRAS, percutaneous transluminal renal artery stenting; SP, systolic blood pressure; DP, diastolic blood pressure; eGFR, estimated glomerular filtration rate.

**PP-359**

**Comparison of Carvedilol, Nebivolol and Metoprolol for the Prevention of Contrast Induced Nephropathy**

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**Background:** Metoprolol, carvedilol and nebivolol were different beta blockers with different properties. In the literature there are various studies evaluating renal effects of these beta blockers under different conditions. However, to the best of our knowledge there is not any study comparing preventive effects of these three beta blockers with each other against contrast induced nephropathy (CIN).

**AIM:** We aimed to investigate and compare the probable prophylactic effects of three beta blocker agents, carvedilol, nebivolol and metoprolol against CIN.

**Method:** 184 patients who were hospitalized for further evaluation with coronary angiography and have been using beta blocker agent (50 mg metoprolol, 25 mg carvedilol or 5 mg nebivolol) at least for a week were enrolled to the study. Exclusion criteria included dialysis patients, recent exposure to contrastmedia or a nephrotoxic agent within 7 days before the study, urgent percutaneous coronary intervention (PCI), requiring loop diuretics, theophylline/ aminophylline, dopamine throughout the study, hemodynamically unstable patients. Patients were divided into three groups: metoprolol (M) (64 patient), nebivolol (N) (60 patient), carvedilol (C) (60 patient). All groups were hydrated before and after the coronary procedure for 12 hours with the rate of 1 ml/kg/hour intravenous isotonic saline. Serum creatinine (Cr) levels were checked in the second and fifth days of the study. The primary end point was the occurrence of CIN. We defined CIN as an increase  $\geq 0.5$  mg/dL and/or  $\geq 25\%$  in serum creatinine (SCr) concentration at day 2 and/or day 5 of the procedure.

**Results:** The distribution of various characteristics of the participants is shown in Table 1 and Table 2. Seven (10.9%) patients in group M developed CIN, as did 5 patients (8.3%) in group N and 2 patients (3.3%) in group C. Patients in carvedilol group developed less CIN, however the difference with the group C and the others did not reach statistical significance ( $p=0.283$ ) (Figure 1). Changes in mean Cr level from baseline to day 2 and day 5 were not statistically significant in all groups.

**Conclusion:** If there is indication for a beta blocker therapy before the coronary angiography procedure, although the comparative results with metoprolol and nebivolol did not reach statistical significance, this study demonstrated a weak evidence favouring against carvedilol prescription as it would be a better choice for the prevention of CIN.

