and endothelium-dependent vasodilation reduced (5.6±5.3 vs 15.7±17.4%, p<0.001) compared to controls. Furthermore, a significant correlation was found between endothelium-dependent vasodilation and serum CRP levels in the whole population of patients (r=0.38, p<0.05), with a tendency to a correlation in the group of SX patients (r=0.44, p=0.006) but not in controls (r=0.19, p=0.549), separately. No differences were observed in endothelium-independent vasodilation results between SX patients and controls (19.5±9.2 vs 19.8±5.9%, respectively, p=0.002). The vasodilator response to nitroglycerin was also not significantly correlated to serum CRP levels both in the whole population of subjects (r=0.15, p=0.44) and in syndrome X patients (r=0.37, p=0.15) and in controls (r=0.11, p=0.74), separately.

Coronary dilatation data confirm the presence of endothelial dysfunction and of higher serum CRP values in SX patients. There was, however, only a tendency to a correlation between CRP levels and flow-mediated vasodilation, suggesting that other mechanisms may contribute to endothelial dysfunction in these patients.

**Methods:** Thirty-three patients with uncomplicated AMI who underwent an emergency PCI were enrolled. By use of high-resolution ultrasound, FMD and nitroglycerin-mediated dilatation (NMD) of the brachial artery were measured at 10 days and 3 months after the onset of AMI. These patients divided into 3 groups. Group I: FMD > 3% in both study n=14. Group II: FMD < 3% in either study n=14. Group III: FMD < 3% in both study n=19. Follow-up angiography was performed to assess restenosis.

**Results:** There were no significant differences in injection fraction, baseline hemodynamic variables and NMD among the three groups. 13 of the 33 patients had angiographic restenosis > 75%. Restenosis rate was similar in Group I and Group II. However, the restenosis rate in Group III was significantly higher than in Group I (11% vs 79%, p<0.05).

**Conclusions:** The sustaining fall of FMD increase the restenosis rate. Peripherial endothelial function may predict coronary restenosis in AMI patients treated by primary PCI.

918 The effect of levosimendan on endothelial function in patients with chronic heart failure

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**Objective:** Abnormalities in endothelium-dependent, flow-mediated dilatation (FMD) may be assessed noninvasively in the brachial artery by high frequency ultrasound. Levosimendan is a calcium sensitizer with both a positive inotropic effect and a vasodilator effect, exerted on the coronary as well as peripheral arteries. The aim of this study was to evaluate the effect of Levosimendan on Endothelial Function in patients with Chronic Heart Failure (CHF).

**Methods:** The study population included 12 in-hospital patients (10 males, mean age 62 ± 1.4 years) with uncompensated CHF, in NYHA functional class III/IV and Left Ventricular Ejection Fraction (LVEF) < 45%. All patients were receiving optimal medical treatment prior to their hospitalization. In all, FMD of brachial artery was studied by noninvasive ultrasound, before and 2 days after a 24 h infusion of Levosimendan.

**Results:** The baseline brachial artery diameter was 4.67 ± 0.35mm before and 4.71 ± 0.70mm after reactive hyperemia. Following Levosimendan infusion, there was a nonsignificant increase of the brachial artery diameter at rest (4.71 ± 0.70 vs 4.78 ± 0.72mm, p=0.07) and after reactive hyperemia (5.05 ± 0.22mm, p=0.071). However, FMD as a percentage (%) increased significantly from 6.29 ± 2.29% before to 7.36 ± 3.22% after Levosimendan infusion (p=0.04). The FMD absolute value also increase significantly from 0.30 ± 0.10mm/min to 0.34 ± 0.16mm after the infusion, while nitrate induced dilatation did not significantly change (5.25 ± 0.42mm before, 5.31 ± 0.60mm after, p=0.19, percentage values:12.69 ± 6.98% before, 12.90 ± 5.94% after, p=1.0).

**Conclusions:** Our data suggest that Levosimendan infusion has a favourable effect on endothelial function in patients with CHF, under optimal medical treatment. Further studies are due to throw more light on the role of Levosimendan on endothelial function in patients with CHF.

919 Endothelial function in patients with type 2 diabetes mellitus

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**Objective:** Patients with type 2 diabetes mellitus have greater incidence of atherosclerosis than patients without diabetes mellitus. It is believed that endothelial dysfunction plays a crucial role in development of atherosclerosis. We aimed to investigate the effect of atherosclerotic risk factors on endothelial function in patients with type 2 diabetes mellitus.

**Methods:** We studied 69 patients with type 2 diabetes mellitus aged 61±8 years. We assessed endothelial function on the basis of the relative dilatation of brachial artery (%) after its 5 minutes occlusion (flow-mediated dilatation - FMD) by high-resolution ultrasound imaging. Just before ultrasound examination, we evaluated fasting glyceremia, insulinaemia, glycated hemoglobin level, glycation end products level (thiobarbituric method), lipids level, triglycerides level, TNF-alpha level (high sensitivity method), C-reactive protein level (high sensitivity method) and blood pressure. Insulin resistance was estimated by homeostasis model assessment of insulin resistance (HOMA-IR) according to the formula: fasting insulin (µU/ml) x fasting glucose (mmol/l)/22.5. Statistical correlation between examined factors and flow-mediated dilatation was analyzed.

**Results:** Statistically significant correlation between FMD (13.05±6.52% and 25.0% and glycated hemoglobin level (9.64±1.37%) (p<0.01, r=0.58), glycation and products level (119.4±5.29; p=0.018, r=-0.37), insulin resistance (7.66±0.87) (p=0.005, r=-0.34), fasting glycemia (150.3±1.6) (p=0.005, r=-0.45), triglycerides level (175±142mgdl) (p=0.001, r=-0.29).

**Conclusions:** These preliminary data suggest that endothelial dysfunction in patients with type 2 diabetes mellitus is associated not only with increased insulin resistance and triglycerides level but also with elevated glycemia which may correlate with intensified glyceremia process in these patients.