

245. Efficiency of thrombectomy as an adjunct to PCI in patients undergoing Percutaneous Coronary Intervention (PCI) for ST-elevation Myocardial Infarction (STEMI)

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Introduction: STEMI is the most serious manifestation of Coronary Artery Disease (CAD). STEMI treatment is being systematically improved which caused significant reduction of death during hospitalization. There have been published many researches which produced conflicting conclusions referred to efficiency of thromboaspiration (method which decreases embolus's volume in blocked artery during PCI).

Aim: Efficiency of thrombectomy followed by PCI compared to conventional PCI alone in patients with STEMI treated in Clinic of Cardiology PUM in Szczecin.

Materials and methods: Data of 244 patients with STEMI were analyzed. Only patients who were presented within 24 h of symptom onset were included. In group of 127 patients (group B) was performed thrombectomy as an adjunct to PCI and in group of 117 (group K) only PCI. Both groups weren't different significantly in age and sex structure, MI or stroke in patient's history and CAD risk factors (HT, DM, dyslipidemia, smoking, obesity) and time passed from symptom onset to start of PCI (for all $p < 0.05$). End points included: thrombolysis in myocardial infarction (TIMI) grade flow, post procedural ST segment resolution (STR) (percentage of decrease in ST-segment elevation just after the procedure), ejection fraction (EF) after the procedure performed before discharge.

Results: TIMI flow grade increase was significantly higher in group with thrombectomy ($B = 2.51 \pm 0.9$; $K = 2.155 \pm 1.06$; $p = 0.0034$). Compared groups differs significantly in STR ($p = 0.009$), in group with thrombectomy significantly more often occurred STR: 31-70% ($B = 43\%$ vs. $K = 25\%$; $p = 0.0023$) and showed a trend towards STR higher than 30% ($B = 73\%$ vs. $K = 61\%$; $p = 0.07$). Thrombectomy was also associated with a significantly greater likelihood of $EF \geq 35\%$ ($B = 97\%$, $K = 87\%$; $OR = 5.29$ ($1.47-19$); $p = 0.05$).

Conclusion: Performing adjunctive thrombectomy could provide benefit in some group of patients with STEMI.

246. Vardenafil prevents the development of diabetic cardiomyopathy

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Introduction: Patients with diabetes mellitus exhibit cardiac dysfunction with decreased nitric oxide production (diabetic cardiomyopathy). Elevated intracellular cyclic guanosine monophosphate (cGMP) levels contribute to an effective cardioprotection in different heart diseases.

Aim: We investigated the effect of the phosphodiesterase-5A (PDE-5A) inhibitor vardenafil in left ventricular (LV) cardiomyocytes of diabetic cardiomyopathy rat model.

Materials and Methods: Experiments were performed in Zucker Diabetic Fatty male rat model (ZDF) and ZDF Lean (ZDFL) served as controls. The animals received with vehicle (ZDFLV) or 10 mg/itkg vardenafil (ZDFV). Permeabilized LV cardiomyocytes were used during the isometric force measurements. We registered, the maximal Ca^{2+} -activated active force (F_{max}), the Ca^{2+} -independent passive force ($F_{passive}$) and the Ca^{2+} -sensitivities of cardiomyocytes (pCa_{50}). Western immunoblotting were applied to assess the site-specific phosphorylation status of cardiac troponin-I (cTnI) and myosin binding protein C (cMyBP-C). Total phosphorylation status of titin protein was probed with ProQ Diamond phosphoprotein staining kit.

Results: No differences in the F_{max} values between the four groups. The pCa_{50} and $F_{passive}$ values were significantly higher in the ZDF rats compared to ZDFL, ZDFLV or ZDFV groups (pCa_{50} and $F_{passive}$: ZDFL: 5.76 ± 0.01 and 1.02 ± 0.12 kN/m² vs. ZDFLV: 5.78 ± 0.03 and 1.03 ± 0.14 kN/m² vs. ZDF: 5.88 ± 0.03 and 1.98 ± 0.12 kN/m² vs. ZDFV: 5.76 ± 0.02 and 1.40 ± 0.13 kN/m², $P < 0.05$, $n = 6-7$, mean $\pm$ SEM). In the ZDF rats the cTnI at Ser22/23, Ser43 and Thr143 sites were significantly lower, while vardenafil markedly increased phosphorylation of cTnI at the same sites compared to ZDF (ZDF: 0.77 ± 0.05 , 0.77 ± 0.08 and 0.68 ± 0.06 vs. ZDFV: 1.01 ± 0.08 , 1.35 ± 0.18 and 1.35 ± 0.16 , respectively, $P < 0.05$, $n = 4$). We could not detect significant differences in the site specific phosphorylation status of cMyBP-C at Ser282 and the total phosphorylation status of titin between the ZDF and ZDFV groups.

Conclusions: Based on our results, increased passive force and Ca^{2+} -sensitivities of cardiomyocytes were observed in the type 2 diabetes mellitus associated-diabetic cardiomyopathy, which can be improved by chronic phosphodiesterase-5A inhibition.

247. Neutrophil to lymphocyte ratio as a predictive factor in patients with both acute coronary syndrome and atrial fibrillation

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Introduction: Atrial Fibrillation (AF) is the most widespread cardiac arrhythmia in general population. It is associated with considerable morbidity and mortality rates. AF affects clinical results, especially in patients with acute coronary syndromes (ACS). The role of inflammation in AF is currently under investigation. Neutrophil to lymphocyte ratio (NLR) is an important and easy to measure inflammatory index from peripheral blood sample. It has been used to predict mortality and clinical outcomes in patients with different types of coronary artery disease (CAD).

Aim: This study sought to examine if the inflammatory index NLR is appropriate for long-term survival prediction in population of patients with ACS and co-morbid AF.

Materials and Methods: We evaluated 315 consecutive patients with paroxysmal or chronic AF who underwent coronary intervention in one centre in Cracow. The inclusion criteria was ACS or stable CAD as a control group. Peripheral full blood count was made routinely in every patient before intervention. We calculated NLR and PLR ratio based on those results.

Results: Mean age of patients with ACS and history of AF was higher than with stable CAD (78,9 vs 73,9 years). There was no significant difference in NLR and PLR between analysed groups (median NLR 3,0 [2,29;4,75] vs 3,1 [1,88;4,66] and median PLR 117,9 [99,9;177,9] vs 117,4 [90,4;168,1]). During the follow-up median of 4,7 years, neither NLR nor PLR were associated with survival rates of patients. Exploratory analysis in a control group with stable CAD showed that higher PLR values correlated with lower survival of patients with CAD and AF, HR for death from any reason was 1,09 (95%CI:1,01;1,17), $p < 0,05$.

Conclusions: NLR and PLR did not predict long-term mortality in a group of patients with ACS and AF independently from its type. Patients with stable CAD and concomitant chronic AF showed higher risk of death than group with stable CAD and paroxysmal AF.

248. Does the size matter? Evaluation of clinical outcomes after rotational atherectomy depending on burr sizing strategy

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Introduction: Rotational atherectomy (RA) is a type of percutaneous coronary intervention used for treating highly calcified lesions in coronary arteries, which cannot be treated by standard procedures, such as percutaneous transluminal coronary angioplasty (PTCA). Despite long lasting experience in performing this procedure some procedural aspects, such as burr sizing, remain controversial. There are studies suggesting that burr to artery ratio (BTA) affects early and late results of treatment.

Aim: The aim of this study was to compare procedural success, periprocedural complications, in-hospital and 1-year follow-up between strategies of using large (BTA > 0,5) and small burrs (BTA ≤ 0,5) in RA procedures.

Material and methods: We retrospectively evaluated data of 206 consecutive RA patients. They were assigned to small BTA ($\leq 0,5$) group ($n = 174$) and large (>0,5) BTA group ($n = 32$). Data concerning follow up events was acquired from the Polish National Health Found.

Results: Baseline demographic and comorbidities were similar in both groups. Mean age of all patients was 71 ± 9 (71 ± 10 vs 72 ± 8), sex structure consist of 66% males (67% vs 59%). Procedural success, defined as <50% residual stenosis without major complications was higher in low BTA group (95% vs 84%, $p = 0,03$). There was no difference in periprocedural complications as a no/slow flow (1% vs 3%), side branch occlusion (3% vs 0%), vessel dissection (4% vs 3%) or perforation (1% vs 3%), emergency CABG (0% vs 0%), atrioventricular block requiring pacemaker implantation (0% vs 0%), same as in-hospital complications as mortality (1% vs 3%), stroke or TIA (1% vs 0%), bleeding (6% vs 13%), target vessel revascularization (1% vs 0%), contrast induced nephropathy (3% vs 3%), intervention required vessel access complications (1% vs 3%) and 1-year follow-up outcomes in both groups (21% vs 25%).

Conclusions: This study did not confirm the advantage of any burr sizing strategy in rotational atherectomy. Further randomized controlled trials should be performed to finally address this issue.