P530 / #510, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.09 LIPID-LOWERING THERAPIES*.
POSITIVITY OF STATIN-ASSOCIATED MUSCLE SYMPTOMS – CLINICAL INDEX IN A HYPERTENSIVE POPULATION CANDIDATED TO LIPID-LOWERING THERAPY BUT NOT TAKING STATINS

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Background and Aims: Statin use has been claimed to be associated with muscle-related symptoms, called SAMS (Statin-Associated Muscle Symptoms). The SAMS-Clinical Index (SAMS-CI) is an approved questionnaire to assess the probability that muscle symptoms are related to statin. Aim: evaluate the difference in prevalence and characteristics of muscle symptoms between hypertensive patients taking statins and hypertensive patients candidates for statins.
Methods: Cross-sectional observational study on 390 outpatients referred to our Hypertension Centre: 250 patients were already on statin therapy and 140 who took at least one other drug different from statins. Patients underwent a modified version of SAMS-CI (rechallenge not included).
Results: Mean age: 60.5±13.6 years. Male prevalence: 53.8%. Patient-reported episodes of muscle symptoms was reported by 50.8% of patients in the group taking statins and by 44.3% in the group not taking them (p=0.217). Within patients with reported episodes of muscle symptoms, a slightly higher score at SAMS-CI emerged in the statin group (3.6±2.4 vs 2.8±1.6 points, p=0.004). Regarding SAMS-CI items, no significant difference emerged in the localization of muscle pain (p=0.170) and timing of symptoms onset in relation to drug (p=0.067). A slightly higher score in the item "resolution timing of muscle symptoms after drug/statin withdrawal" was showed in the statin group (p=0.002).
Conclusions: This finding is in line with the growing evidence that most subjective muscle-related adverse effects are misattributed to statins and occurring because of the nocebo/drucebo effect or due to other common conditions.

P531 / #655, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.09 LIPID-LOWERING THERAPIES*.
NO ASSOCIATION BETWEEN CHANGES IN LIPID PARAMETERS AND TOTAL PCSK9 IN CORONARY ARTERY DISEASE PATIENTS TREATED WITH PCSK9 INHIBITORS

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Background and Aims: Increased concentration of lipoprotein(a) (Lp(a)) is an independent risk factor for coronary heart disease regardless of LDL cholesterol levels. Treatment with PCSK9 inhibitors reduces the incidence of cardiovascular events not only via lowering LDL cholesterol but also via reducing Lp(a) levels. The purpose of our study was to determine whether the decrease in Lp(a) concentration is associated with a change in the concentration of total PCSK9 after treatment with PCSK9 inhibitors in post-myocardial infarction patients treated with the highest tolerated dose of statin, and increased Lp(a) concentration.
Methods: One hundred patients after myocardial infarction before the age of 55 years and with high Lp(a) concentration were randomised to lipid-lowering therapies in three groups, first without PCSK9 inhibitors (control; N=31), second, with alirocumab 150 mg SC (N=35), and third with evolocumab 140 mg SC (N=34), every 2 weeks. The concentrations of Lp(a), lipids and total PCSK9 were measured before and 6 months after treatment.
Results: There were no changes in the measured parameters in the placebo group. Treatment with PCSK9 inhibitors reduced Lp(a) from 1538±627 to 1232±543 mg/l (p=0.035), total cholesterol from 4.2±0.8 to 2.8 1.0 mmol/l and LDL cholesterol from 2.3±07 to 0.9±0.8 mmol/l (p< 0.001 for all). Total PCSK9 increased from 308±132 to 2647±07 ng/ml (p< 0.001). Associations between changes in Lp(a), total and LDL cholesterol were not statistically significant.
Conclusions: Our results suggest that in patients treated with the highest tolerated dose of statins, changes in lipid parameters are not associated with changes in total PCSK9 concentrations after PCSK9 inhibitors treatment.

P532 / #1350, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.09 LIPID-LOWERING THERAPIES*.
STATINS, BUT NOT PCSK9 INHIBITORS, REDUCE THE ADIPOKINE CHEMERIN IN FAMILIAL HYPERCHOLESTEROLEMIA: FOCUS ON LIPOPROTEIN SUBFRACTIONS

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Background and Aims: Familial hypercholesterolemia (FH) is characterized by severe elevations in circulating LDL-c, and an increase in the risk of dyslipidemia-related CVD. Chemerin, as a newly identified adipokine, is considered as an additional risk factor for CVD. Here we investigated whether it can be modified by cholesterol-lowering therapy.
Methods: Lipoprotein subfractions were isolated by density gradient ultracentrifugation. Lipids and chemerin concentrations were determined both before and after cholesterol lowering with either a statin or a PCSK9 inhibitor (PCSK9i). *In vitro*, *HepG2 cells* were used for investigating chemerin secretion by pravastatin or evolocumab, and *THP-1 differentiated* cells were used for chemerin challenge on cholesterol efflux ability.
Results: At baseline, chemerin and lipids levels were not different between two groups. Both statins and PCSK9i reduced LDL-c (by 41 and 62%, P<0.0001), TG (by 13 and 19%, P<0.01), and increased HDL-c (by 8 and 23%, P<0.01), but only statins reduced chemerin (by 35%, P<0.005). The lipoprotein profile revealed that chemerin accumulated particularly in the HDL. Statins reduced HDL3-c and HDL3-TG, and the chemerin level bound to all subfractions. PCSK9i reduced HDL3-c but did not affect HDL3-TG or the level of chemerin bound to HDL. *In vitro,* pravastatin, not evolocumab, inhibited chemerin secretion in HepG2 cells. Moreover, chemerin broken-down cholesterol efflux in THP-1 cells, while pravastatin attenuated this effect.
Conclusions: Circulating chemerin occurs in different lipoprotein subfractions, accumulating in the HDL3 fraction. Statins, but not PCSK9i, lowers chemerin, possibly by interfering with its levels across lipoprotein subfractions and hepatic secretion. This may represent a novel cardiovascular protective function of statins.

P533 / #977, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.10 ANTI-THROMBOTIC THERAPIES*.
CHARACTERISTICS OF CHANGES IN THE FUNCTIONAL ACTIVITY OF PLATELETS IN PATIENTS WITH ACS USING DIFFERENT REGIMES OF ANTIPLATELET TREATMENT

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Background and Aims: Platelets play a leading role in the pathogenesis of atherosclerosis.The use of dual antiplatelet therapy (DAPT) avoid the development of ischemic events.The aim was to compare the effect of different regimens of antiplatelet treatment on the functional activity of platelets in patients with ACS at the time of hospitalization.
Methods: The 43 patients had a history of CAD and at the time of examination were taking DAPT:1 group (24pts) ASA 75 -100 mg and clopidogrel 75 mg/day), 2 group(19 pts) ASA 75-100 mg and ticargelor 180 mg/day.The control group consisted of 19 practically healthy persons.The state of functional activity of thrombocytes was studied using laser aggregometry by light transmission curves with evaluation of spontaneous aggregation and aggregation induced by arachidonic acid (AA),adenosine diphosphate(ADP),collagen,ristocetin and epinephrine in low doses.Statistical analyses perfomed by MedStat v.5.1

Results: The use of both regimens of DAPT led to suppression of platelet activity.The indicators of induced aggregation were significantly lower than the control ones.In the ticagrelor group we observed a more effective reduction in platelet aggregation AA (2.94[1.72;10.5]vs.6.37[4.33;15.0] p=0.031), ADP (34.4[9, 23; 41.5] vs. 50.3[30.7; 66.25]p=0.031) and epinephrine(20.9[3.76; 30] vs. 29.9[25.6; 40.7] p=0.036).The response of platelets to collagen and ristocetin did not differ between the groups.Application of DAPT did not lead to inhibition of spontaneous aggregation(0.43 [0.2;1.25] vs 3.85[1.2; 6.65]p=0.023), in the 1 group and (0.43 [0.2;1.25] vs 1.64[0.79; 2.12] p=0.032) in the 2 group
Conclusions: DAPT results in a significant reduction in induced platelet aggregation,which is more effective in the ticagrelor group. But spontaneous aggregation remains at a high level.

P534 / #917, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.10 ANTITHROMBOTIC THERAPIES*.
INERTIAL CAVITATION-MEDIATED CATHETER- BASED Q-SWITCHED ND: YAG LASER THERAPY IN COMBINATION WITH EXTRACORPOREAL ELECTROHYDRAULIC LOW- LEVEL FOCUSED SHOCK WAVE THERAPY FOR THROMBOLYSIS OF EMBOLIC ARTERY

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Background and Aims: A plaque may rupture with high risk of subsequent thrombus mediated acute clinical events such as myocardial infarction and stroke. The aim of this study was to generate a rabbit model of carotid artery thromboembolic occlusion and the subsequent investigating the feasibility of catheter- based Q-switched Nd: YAG laser therapy accompanied by simultaneously extracorporeal shock wave therapy in this model.
Methods: Briefly, New Zealand White rabbits were submitted to thromboembolic occlusion by injecting autologous blood clots through carotid artery. Then treatment group underwent Q-switched Nd: YAG laser (Frequency= 532 nm, Power= 25 W, Pulse Duration= 15 ns) inertial cavitation therapy accompanied by simultaneously extracorporeal electrohydraulic low- level focused shock wave (V= 15 Kv, F= 0.5 Hz, Impulses= 100) therapy, wherein diagnostic B- mode ultrasound is combined with therapy system, with a goal of increased safety.
Results: from B-mode ultrasound imaging concurrent with combined catheter- based Q-switched Nd: YAG laser and shock wave therapy, showed the generation of collapsed bubbles, resulted in the inertial cavitation- based thrombolytic therapy in the carotid artery. Also, histopathology results, showed a significant reduction in the mean value for thrombus density at the embolic region in the treatment group compared with the other groups (P< 0.05).
Conclusions: Enhanced thrombolytic effect of Q-switched Nd: YAG laser, induced by shock waves can significantly cause to reduce the thrombus density and dilate the luminal cross-sectional area at the embolic region and lower treatment time and reduce total costs of treatment

P535 / #1211, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.10 ANTITHROMBOTIC THERAPIES*.
EFFICACY OF TICAGRELOL IN PATIENTS WITH CHRONIC CORONARY SYNDROME AND TYPE 2 DIABETES MELLITUS AFTER PERCUTANEOUS CORONARY INTERVENTIONS

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Background and Aims: Aim of the study was to evaluate the efficacy of ticagrelol in patients with chronic coronary syndrome (CCS) and type 2 diabetes mellitus (T2DM) after elective percutaneous coronary interventions (PCI).
Methods: 112 patients with CCS and T2DM who admitted for the elective PCI were enrolled in the study from 2018 to 2022. Patients were divided into two groups by 56. Group I patients were assigned ticagrelol 90 mg BID whereas Group II were assigned clopidogrel along with aspirin for 1 year. 20 μmoll ADP induced platelet aggregation was assessed at baseline and after 12 hours of administering loading dose of antiplatelet. Efficacy and safely were assessed during the follow up in both group of patients.
Results: Inhibition of platelet aggregation with 20 μmoll ADP at 12 hours was significantly higher in ticagrelol group than clopidogrel group (71.65±14.25% vs. 42.74±18.25%, P<0.001). Besides, it was significantly higher in ticagrelol group than clopidogrel group (68.12±13.27% vs. 45.82±17.54%, P<0.001) during the maintenance dose at 48 hours. PCI bleeding complications were similar in each group (P>0.05). During the follow-up ticagrelol group tended to have higher bleeding (log-rank test; 0.752), lesser MACE than clopidogrel group, (Mantel−Cox test; P=0.045). 56 ticagrelol treated patients showed that MACE negatively associated with post PCI bleeding complications (P=0.048).
Conclusions: Dual antiplatelet therapy with ticagrelol and aspirin is superior than clopidogrel plus aspirin to prevent MACE in patients with CCS and T2DM after elective PCI. However, ticagrelol should be used cautiously in patients with gastrointestinal ulcers due to its PCI related bleeding risks.

P536 / #182, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.10 ANTITHROMBOTIC THERAPIES*.
THE ASSOCIATION OF CHADS-P2A2RC RISK SCORE WITH OUTCOMES IN PATIENTS TAKING P2Y12 INHIBITOR MONOTHERAPY AFTER 3 MONTHS OF DUAL ANTIPLATELET THERAPY FOLLOWING PERCUTANEOUS CORONARY INTERVENTION

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Background and Aims: The predictive value of the ischemic risk score and the appropriate antiplatelet regimen based on its stratum remains unclear. This study aimed to assess the predictive ability of the CHADS-P2A2RC in patients undergoing percutaneous coronary intervention (PCI) and its association with antiplatelet strategies.
Methods: This was a post-hoc sub-study of the SMART-CHOICE trial that compared P2Y12 inhibitor monotherapy after 3-months of dual antiplatelet therapy (DAPT) with prolonged DAPT (12 months or longer) in patients who underwent PCI. The randomized antiplatelet effect was assessed in three CHADS-P2A2RC risk groups. The primary outcome was a major adverse cardiac cerebral event (MACCE), a composite of all-cause death, recurrent myocardial infarction, or stroke.
Results: At three years, the high CHADS-P2A2RC risk group had the highest incidence of MACCE (105 (12.1%), adjusted hazard ratio (HR), 2.927; 95% confidence interval (CI), 1.358-6.309; *P*=0.006) followed by moderate-risk (40 (1.4%), adjusted HR, 1.786; 95% CI, 0.868-3.674; *P*=0.115) and low-risk (9 (0.5%), reference) (*P*=0.006). In sensitivity analyses, P2Y12 inhibitor monotherapy reduced the Bleeding Academic Research Consortium (BARC) types 2, 3, or 5 bleeding without increasing the risk of MACCE as compared with prolonged DAPT across the three CHADS-P2A2RC risk strata without significant interaction term (interaction *P* for MACCE = 0.705 and interaction *P* for BARC types 2, 3, or 5 bleeding = 0.055).
Conclusions: The CHADS-P2A2RC risk score is valuable in discriminating high ischemic risk patients undergoing PCI. Even in such patients, P2Y12 inhibitor monotherapy was associated with a lower incidence of bleeding without increased risk of ischemic events.

P537 / #1229, TOPIC: *AS04 CLINICAL VASCULAR DISEASE / AS04.10 ANTITHROMBOTIC THERAPIES*.
RELATIONSHIP BETWEEN BLOOD INFLAMMATION STATE AND PLATELET AGGREGATION RATE IN PATIENTS WITH ATHEROSCLEROTIC CORONARY ARTERY DISEASE AFTER PERCUTANEOUS CORONARY INTERVENTIONS

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