immunosorbent assay using monospecific polyclonal sheep anti-human-apo(a) antibodies. The primary endpoint was the composite of cardiovascular death and non-fatal myocardial infarction.The secondary endpoint also included hospitalization for recurrent angina and repeat revascularization.
Results: The primary and secondary endpoints occurred in 47 (12%) and 201 (50%) patients, respectively. After adjustment for baseline characteristics, patients with Lp(a) ≥30 mg/dL were at significantly greater risk for the primary endpoint (hazard ratio (HR) 1.35, 95% confidence interval (CI) 1.01-1.79, p<0.05) than patients with Lp(a) values<30 mg/dL. The incidence of the secondary endpoint was higher in the presence of Lp(a) excess (94 (47%) versus 56 (28%) patients. In accordance with multiple regression analysis with adjustment for other significant variables, Lp(a) was independently associated with high risk of all cardiovascular events, HR 1.53, 95% CI 1.17-2.01, p<0.01).
Conclusions: In the Russian single-center prospective study it was shown that Lp(a) concentration could serve as an independent predictor of long-term cardiovascular outcomes after elective percutaneous coronary interventions.

EAS16-0635, LIPOPROTEINS AND LIPID METABOLISM: LP(A).
EFFECT OF NIACIN ON LIPOPROTEIN SUBFRACTIONS CONCENTRATION IN PATIENTS WITH ELEVATED LIPOPROTEIN(A)

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Objectives: To investigate changes of lipoprotein subfractions concentrations in patients with elevated level of lipoprotein(a) [Lp(a)] on niacin treatment.

Methods: This study included 65 patients with elevated level of Lp(a) from two other studies: 43 patients with ischemic heart disease (IHD) confirmed by angiography consisted main group, 22 subjects without IHD formed the control group. All patients took niacin 1.5 g/day; IHD patients were on stable dose of atorvastatin while controls were on niacin monotherapy. The lipid profile and lipoprotein subfractions were analyzed with «Biocon» (Germany) and «Lipoprint® System» (Quantimetrix, USA).
Results: At baseline patients of main and control groups were differed by age (55±7 and 48±7 years, p<0.05), levels of Lp(a) (98±45 and 47±20 mg/dL, p<0.0001), total cholesterol (4.6±0.9 and 5.8±1.2 mmol/l, p<0.0001), triglycerides (1.4±0.7 and 2.2±1.2 mmol/L, p<0.05) and low-density lipoprotein cholesterol (LDL-C) (2.7±0.8 and 3.6±1.2 mmol/l, p<0.05), respectively. No significant changes in lipoprotein subfractions excepting lowering of Lp(a) by 38% (p<0.0001) have been observed in the main group. Patients of the control group showed the significant decreasing in Lp(a) level by 32% (p=0.004), small dense LDL by 42% (p=0.012), small high-density lipoprotein (HDL) by 27% (p=0.029) and the increasing of the content of large HDL by 18% (p=0.018).
Conclusions: The reduction of Lp(a) level, small dense LDL and small HDL and increasing of large HDL suggest the positive impact of niacin on the lipoprotein subfractions profile in subjects with elevated level of Lp(a) that were not treated with statins.

EAS16-0235, METABOLIC ABNORMALITIES AND ATHEROSCLEROSIS: ADIPOSE TISSUE.
EPICARDIAL FAT ,CARDIAC CHAMBERS AND CORONARY CALCIFICATION IN HYPERTENSIVE PATIENTS

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Objectives: To study the relationships of epicardial fat volume(EFV) and coronary artery calcification (CAC) with cardiac chamber dimensions(left ventricle diameter(LV),right ventricle diameter(RV) and left atrial appendage area(LAA)) in hypertensive patients with suspected coronary artery disease (CAD).

Methods: We recruited 136 patients with intermediate pretest probability of CAD who underwent 64-slice multi-detector CT angiography examination between January 2014 and march 2015. CAC was measured according to the Agatston method for the individual coronary arteries as well as total heart calcium. EFV was defined as any fatty tissue located within the pericardial sac. LV and RV largest diameters in mm were measured in the axial view.LAA area in mm^2 was measured via multiply the width with length in axial view.
Results: According to the presence of a history of hypertension, the patients were divided into hypertension(58,43%) and non hypertension(78,57%) groups.EFV mean was 103 ±64 cm^3 and CAC mean was 106± 195 in the hypertensive patients. There were no significant correlations between EFV with RV,LV and LAA. Also, no significant correlations between total CAC with RV and LV. A significant correlation was observed between left circumflex artery calcification with LAA (r=0.27,*P*=0.04) particularly in patients with high EFV. Regarding the distribution of total CAC,EFV and cardiac chambers dimensions between hypertensive and non hypertensive groups, only EFV mean was higher in hypertensive patients compared to non hypertensive (103cm^3 *Vs* 78 cm^3,*P*=0.01).
Conclusions: In hypertensive patients, LAA was significantly associated with left circumflex artery calcification. EFV was higher in hypertensive patients compared to non hypertensive patients.

EAS16-0438, METABOLIC ABNORMALITIES AND ATHEROSCLEROSIS: ADIPOSE TISSUE.
ADIPOKINES AND CYTOKINES SERUM LEVELS IN CHILDREN AND ADOLESCENTS AND ITS RELATIONSHIP WITH OBESITY

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Objectives: In early stages of life, obesity is associated with increased morbidity as well as risk of premature death and from cardiovascular disease. The higher prevalence of obesity worldwide affecting children and adolescents is a main concern for health systems in developed countries. The aim of this study is to determine the relationship between cytokines/adipokines and obesity in childhood.

Methods: This is a preliminary, prospective, observational and descriptive study .We selected a population of 127 subjects aged between 12 and 18, excluding those with any chronic disease. We have determined BMI (body mass index), skin folds, anthropometrics data, total cholesterol (TC), HDL-C, LDL-C, triglycerides and glucose. Of them, we have selected 20 children with normal and high BMI with a caloric intake of 1540 and 2316 (kcal) /day respectively. Diets were monitored through dietary surveys
Results: Our results show an increase in plasma glucose (p <0.04) and a decrease in HDL cholesterol, leptin and pentraxin-3 (p <0.001), in the overweight and obese population. We have detected a direct correlation between circulating levels of HDLc, PON-1 vaspin and leptin and pentraxin-3 in the same children.
Conclusions: Our results suggest a potential scenario proatherogenic in the overweight and obese population. This scenario must be avoided through educational interventions to improve the quality of our children's current diet and physical exercise.

EAS16-0628, METABOLIC ABNORMALITIES AND ATHEROSCLEROSIS: ADIPOSE TISSUE.
INDUCIBILITY OF TRIGLYCERIDE TURNOVER IN WHITE FAT – A MARKER OF LEAN PHENOTYPE

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Objectives: 1)Combined intervention using *n*-3 polyunsaturated fatty acids (***n*-3 PUFA**) and calorie restriction (**CR**) in dietary obese B57BL6/J (**B6/J**)mice and 2)cold exposure using obesity- and atherosclerosis-resistant **A/J** and obesity- and atherosclerosis-prone (**B6/J**) chow-fed mice were chosen to study metabolic changes in WAT. Its metabolic activity is relatively low, however several pieces of evidence indicate that UCP1-independen activation of futile TG/FA cycle in adipocytes could influence total energy balance and could prevent obesity and obesity releated chronic inflammation.

Methods: The activity of futile TG/FA cycle was measured by ^{2}H-NMR. qPCR was used to find out, if genes involved in mitochondrial biogenesis, FA oxidation and glyceroneogenesis were changed.
Results: 1)The combined intervention (*n*-3 PUFA + CR) had the anti-inflammatory effect. **PPAR**γ signaling was activated in response to formation of lipid mediators such as 15d-PGJ2. 2) A decrease in depot weight was observed in cold exposed animals in both subcutaneous and epididymal WAT, the effect was more pronounced in the case of A/J mice. TG/FA cycle was elevated, again more in A/J. In both experiments genes involved in mitochondrial biogenesis, FA oxidation and glyceroneogenesis were increased.
Conclusions: Our results support the view that high capacity of mitochondrial OXPHOS linked to inducible TAG/FA cycling activity is essential for metabolic flexibility of WAT, may support leanness, lower chronic tissue inflammation and be helpful for not increasing TAG and NEFA in system circulation, which can contribute to the formation of atherosclerotic plaques.
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EAS16-0984, METABOLIC ABNORMALITIES AND ATHEROSCLEROSIS: ADIPOSE TISSUE.
RELATIONSHIP OF ORPHAN RECEPTOR RORα AND CHOLESTEROL TRANSPORTERS ABCA1 AND ABCG1 EXPRESSION IN VISCERAL ADIPOSE TISSUE

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Objectives: RAR-related orphan receptor RORα is a nuclear receptor involved in the circadian system, lipid metabolism and regulation of adipogenesis. While adiposity is associated with impaired lipid homeostasis and cholesterol accumulation in adipose tissue, ATP-binding cassette transporters ABCA1 and ABCG1 play a major role in cellular cholesterol efflux in adipocytes. We investigated whether regulation of adipocyte ABCA1 and ABCG1 might also be a target pathway of RORα and play a role in human obesity.

The aim of this study was to investigate correlation between orphan receptor RORα and ABCA1 and ABCG1 transporters in intraabdominal adipose tissue.

Methods: Visceral fat was received from gastrocolic omentum during laparoscopic cholecystectomy from 37 individuals: obese/overweight (BMI≥25; N=23) and normal weight (BMI<25; N=14). *ABCA1*, *ABCG1* and *RORα mRNA* levels were determined by Real-Time PCR. Protein levels were measured by Western-blot.
Results: *RORα mRNA* level was reduced in the obese/overweight group compared with the normal weight group ($p<0.02$). A positive correlation between RORα and ABCA1 ($r=0.48$; $p<0.05$) and ABCG1 ($r=0.43$; $p<0.05$) protein levels in visceral fat was shown. An interesting discrepancy between *ABCA1* and *ABCG1 mRNA* and protein levels was demonstrated. ABCA1 and ABCG1 protein levels were higher in overweight individuals compared with normal weight ($p<0.01$; $p<0.05$), this was not observed for morbidly obese individuals despite of *ABCA1* and *ABCG1 mRNA* levels were positively correlated with BMI.
Conclusions: Our results suggest RORα may control ABCA1 and ABCG1 protein levels in visceral fat tissue and thus influence on the obesity development.
The research was supported by RFFR 14-04-31690 grant.

EAS16-0234, METABOLIC ABNORMALITIES AND ATHEROSCLEROSIS: ADIPOSE TISSUE.
EPICARDIAL FAT AND BMI RELATIONSHIPS WITH CORONARY ATHEROSCLEROTIC MARKERS IN PATIENTS WITH CORONARY CALCIUM SCORE >0: THE EFFECT OF AGE AND GENDER

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Objectives: To study the effect of age and gender on the relationship of obesity measures(EFV and BMI) with coronary atherosclerotic markers (croaonry calcificed plaque(CCP) and coronary artery obstructive disease (CAD)) in patients with coronary calcium score >0(CAC).

Methods: From a total 339 consecutive patients with suspected coronary disease, 145 patients with CAC >0 measured according to the Agatston method were eligible to enroll in this study. EFV was defined as any fatty tissue located within the pericardial sac. CAD was visually graded as non-significant stenosis with a mean lumen diameter reduction of < 50 % or significant stenosis with a mean lumen diameter reduction of ≥ 50 % in a single vessel.
Results:
Patients aged ≤ 50 years: Consisted of 31 patients. No significant correlations were observed between EFV with CAD and CCP while BMI showed a significant correlation with CCP only ($P=0.01$).
Patients aged > 50 years: consisted of 114 patients.EFV was significantly correlated with CAD ($P=0.01$). No significant correlations were observed between EFV with CCP. BMI showed no significant correlations with CAD and CCP.
Male patients: Consisted of 85 patients .EFV was significantly correlated with CAD($P=0.007$) while BMI showed no significant correlation with CAD. No significant correlations were observed between EFV and BMI with CCP.
Female patients: Consisted of 60 patients. No significant correlations were observed between EFV and BMI with CAD and CCP.
Conclusions: In patients with CAC >0, BMI showed significant correlation with coronary atherosclerosis in young patients while EFV was significantly correlated with coronary atherosclerotic markers in male patients aged > 50 years.

EAS16-0624, METABOLIC ABNORMALITIES AND ATHEROSCLEROSIS: ADIPOSE TISSUE.
COLD-INDUCED CHANGES IN WHITE ADIPOSE TISSUE OF A/J AND C57BL/6J MICE

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Objectives: During short-term cold exposure, thermogenesis and energy consumption is increased and energy stores are partially depleted. The ability to withdraw lipids from adipose tissue is to some extend dependent on a sufficient vascular network and a presence of adipocytes with high lipolytical and re-esterification rate. Thus, we attempted to define the impact of cold on epididymal white adipose tissue (eWAT) of atherosclerosis- and obesity-resistant A/J and prone C57BL/6J mice.

Methods: A/J and C57BL/6J 3-month-old male mice fed standard chow were maintained at thermoneutral temperature (30°C), or exposed to cold (6°C for 48 hours) before dissection. ATGL, DGAT1 and isolectin IB4 were immunohistochemically detected. mRNAs for *Atgl* and *Dgat1* were evaluated using quantitative RT-PCR.
Results: Cold exposure in eWAT leads to a decrease in depot weight; the effect is more pronounced in the case of A/J mice and may be connected to