Uptake of CO and C decreases 39% and 25%, respectively, when LDL concentration was increased. Besides, increasing concentration of HDL decreases the uptake of CO and C to 67% and 38%, respectively. This vitro study showed that the nanoeumolun compete with LDL and HDL for their respective receptors. These results contribute to better understand the behavior of the nanoeumolun in endothelial cell and can be an important tool for atherosclerosis therapy research.

**PO15-167 CHANGES OF PLASMA THIOBARBITURIC ACID SUBSTANCES AND LIPOPROTEINS FATTY ACIDS COMPOSITION IN HYPERTENSIVE PATIENTS WITH ESSENTIAL HYPERTENSION**

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The aim of the present investigation was to determine changes of plasma thiobarbituric acid reactive substances (TBARS) and fatty acids (FA) lipoproteins composition in hypertensive subjects with essential hypertensive, aged 40-55 years from 12 to 24-wk (wk) treatment with betal-blockers. Lipid peroxidation was established by estimation of plasma TBARS, lipoproteins separation was determined using a stepwise precipitation procedure with sulfate dextran and analyses of fatty acids (FA) concentrations was diminished respectively by -11% and -26%, this reduction was concomitant to decreases of plasma LDL-TBARS amounts (4.3±0.4 vs. 2.5±0.2 nmol.mL-1). At 24-wk vs. 12-wk, plasma triacylglycerols (TG) and low density lipoprotein cholesterol (LDL-C) concentrations were diminished respectively by -11% and -26%, this reduction was concomitant to decreases of plasma LDL-TBARS amounts (4.3±0.4 vs. 2.5±0.2 nmol.mL-1). At 24-wk vs. 12-wk, the contents of long chain fatty eicosapentaenoic acid (22:5n-3, EPA), docosahexaenoic (22:6n-3, DHA) of TG-VLDL, phospholipids-HDL3 (PL-HDL3) and cholesterol esters-HDL2 (EC-HDL2) were increased respectively by 25%, 30%, 36%, while in cholesteryl esters-LDL (EC-LDL) doocosaetraenoic acid (22:4n-6, DTA), EPA and DHA were 1.8-, 1.9- and 1.6-fold higher.

Conclusions: The tryptamine derivatives are an interesting approach of the MPO inhibition as they inhibit the LDL oxidation at infra micromolar concentrations. They will be used as a starting point for the synthesis of a new family of compounds in the inhibition of the MPO-dependent LDL oxidation.

**PO15-159 BINDING OF ANNEXIN V TO OXIDIZED LIPID ON OXIDATIVELY DAMAGED ERYTHROCYTE**

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Background: Annexin V is known to bind to phosphatidylserine (PS) of apoptotic cell membranes. It has been suggested that annexin V binds to a product of lipid peroxidation and that oxidative processes are involved in cell apoptosis. The aim of this study is to find whether annexin V binds to oxidized lipids or not using oxidized erythrocytes (oxRBC).

Methods: Low density lipoprotein (LDL) and RBC were oxidized by CuSO4. The degree of oxidation was evaluated by the measurement of thiobarbituric acid reactive substance. Human monocytc leukemia cell line (THP-1) was differentiated into macrophage by phorbol-12-myristate-13-acetate. The binding of annexin V to oxRBC was evaluated by fluorescent-activated cell sorter (FACS).

Results: OxRBCs bound to macrophages and the bindings were completely inhibited by oxLDL, Annexin V bound to oxRBC, but not to native RBC. The percent number of RBCs binding to annexin V was closely correlated with the degree of the oxidation (r=0.99, p=0.000) according to the concentration of CuSO4. The binding of annexin V to oxRBC was attenuated in the presence of oxLDL and these phenomena were dose-dependent. The binding was reduced by 71.0±3.0% in the presence of 100 µg/mL of oxLDL. LDL did not influence the binding of annexin V to oxRBC. Pre-incubation of oxRBC with oxLDL did not interfere the binding of annexin V to oxRBC.

Conclusion: The findings suggest that annexin V binds to oxidized lipid of cell membranes. Annexin V may be useful for the studies of lipid oxidation.

**PO15-158 Tryptamine Derivatives Inhibit the Myeloperoxidase-Dependent LDL Oxidation**

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Background: As a proatherogenic factor, myeloperoxidase (MPO) oxidizes apolipoprotein B-100 of low density lipoprotein (LDL) leading to the formation of oxidized LDL (Mox-LDL). This oxidative modification generates pro-inflammatory responses from monocytes and endothelial cells. In this context, the inhibition of the Mox-LDL production could be a contributing factor in the comprehension of atherosclerosis or in the development of a new therapeutical approach.

Methods: The 5-chloro and 5-fluorotryptamine have been compared to a well known MPO inhibitor, flufenamic acid. First, the concentration that inhibits 50% of the MPO activity (IC50%) was measured with the taurine assay. Secondly, the percentage of LDL oxidation was measured in an ELISA with a specific monoclonal antibody that recognizes Mox-LDL. The inhibition of the MPO activity and the MPO-dependent LDL oxidation is resumed in the following table. The tryptamine derivatives are characterized by a more efficient inhibition of the MPO activity. Moreover, they significantly inhibit the MPO-dependent LDL oxidation at 1µM.

**PO15-160 Telomere Length Regulation of Vascular Smooth Muscle Cells in a Balloon Injury Model: Effects of Oxidative Stress**

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Background and Aims: Replicative senescence and oxidative stress have been implicated in aging, endothelial dysfunction and atherosclerosis. Replicative senescence has been linked to erosion of telomeres which are high order structures formed by specific DNA sequences found at the end of linear chromosomes and act to preserve chromosomal integrity. Increased levels of reactive oxygen species (ROS) are found in atherosclerotic in all layers of the diseased arterial wall. In vitro, oxidative stress can accelerate senescence characterized by telomere shortening. In this study our aim was to investigate the telomere length regulation in a balloon injury model and to elucidate the effects of oxidative stress in vivo.

Methods: Balloon angioplasty was performed in the iliac artery of the rabbits with a Fogarty 2.5 cm. balloon catheter and the injured and