Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Methods: We studied 1786 subjects with cardiovascular disease (CVD) investigated by clinical examination, laboratory investigations, echocardiography and dental state appreciated mainly by teeth loss number (TLN). The mean age of the group was 59.6 years; 527 (29.5%) were male, 482 had heart failure with clinical symptoms,. Functional classification of heart failure (NYHA) was applied: 227 (47%) - class II, 207 (43%) - class III, 48 (10%) - class IV. For inflammatory syndrome appreciation, we used serum fibrinogen (F), C reactive protein (CRP) and TLN determination.

Results: We found that inflammatory syndrome expressed by F, CRP and TLN is present in cardiac failure of patients with CVD: F is increased in cardiac failure versus no cardiac failure patients (423.8±131.6 vs 398.6±122.2 P<0.0002); TLN is increased in cardiac failure patients versus normal functional patients (15.1±10.5 vs 13.7±8.6 P<0.0071), CRP (6.6±4.4 vs 5.7±4.1 P<0.006). The multivariate analysis noted that, after confounding adjusting, only age, TLN and F are the factors remained in the equation. A posthoc analysis noted a progressively increased relationship between F, TLN and cardiac failure functional class.

Conclusions: Inflammatory syndrome is present in cardiac failure from CVD by increased TLN, serum F, and CRP level. TLN intervention is explained by an inflammatory state generated by gum inflammation and germs discharged in circulation. Preventive measures are considered.

EP135 / #1021, TOPIC: ASA01 - PATHOGENESIS OF Atherosclerosis / ASA01-12 OTHER, POSTER VIEWING SESSION.

AGE-DEPENDENT DIFFERENCES IN CORONARY ATHEROSCLEROSIS BETWEEN WOMEN AND MEN WHO DIED SUDDENLY OUT-OF-HOSPITAL

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Background and Aims: Women have thought to be protected from coronary heart disease up to menopause, after which their morbidity and mortality from CHD reach the level of men in the same age-group. Possible gender differences in the severity of atherosclerosis have never been measured exactly at the vessel wall level.

Methods: We measured stenosis percentage and surface area of atherosclerotic lesions using computer-assisted planimetry in the left anterior descending coronary artery (LAD) and right coronary artery (RCA) in 10-year age-groups of 185 Caucasian white women and 515 men comprising the Tampere Sudden Death Study. This prospective series comprising individual aged 16 - 96 years represent a cross section of the general population.

Results: Women were in mean 7 years older than men (p<0.0001). In age-adjusted analysis, there were no differences in the total plaque area or stenosis percentage in RCA or LAD between premenopausal women (< 50 years) and men in the same age-group. However, in postmenopausal women aged 51-60 years the plaque area remained on average 24% smaller, and in women aged 61-70 years, 25% smaller compared to men. In the oldest postmenopausal group (>70 years), the total plaque area reached the level of men. Coronary artery stenosis percentage showed no gender difference in RCA, whereas in LAD women had statistically significantly smaller stenosis than men in all age groups over 60 years.

Conclusions: The severity of atherosclerosis among premenopausal women did not differ from men. However, it seems that in postmenopausal women the progression of atherosclerosis is slower compared to men.

EP136 / #1106, TOPIC: ASA01 - PATHOGENESIS OF Atherosclerosis / ASA01-12 OTHER, POSTER VIEWING SESSION.

INVESTIGATION OF THE ANTIOXIDANT AND ANTI-INFLAMMATORY POTENCY OF ECHINACEA ANGUSTIFOLIA EXTRACT

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Background and Aims: Echinacea is known for its potent antioxidant properties. We studied the effect of 2 different extracts of Echinacea angustifolia on low-density lipoprotein (LDL) oxidation and on the expression of the adhesion molecule ICAM-1, on endothelial cells (HUEVCs) activated with the tumor necrosis factor-alpha (TNF-α).

Methods: We prepared an aqueous and an isopropanol/water (1/1v/v) extract of the aerial parts of Echinacea angustifolia. Both extracts were treated with XAD-7 adsorbent resin. Using HPLC-DAD and LC-HRMS, the biologically active substances found were rosmarinic, chlorogenic and choric acid and kaempferol-3-O-glucoside. The inhibitory activity of all extracts (5-200ng/mL) towards the oxidative modification of LDL (100μg/mL) was studied and the threshold concentration (the minimum concentration with the maximum antioxidant activity) was determined. To study their possible anti-inflammatory activity these extracts were incubated for 1h with HUEVCs following by cell activation with TNF-α (0,5ng/mL) for 6h. Cell activation was assessed by the membrane expression of ICAM-1 by flow cytometry.

Results: All extracts inhibited LDL oxidation, the extract with the strongest antioxidant activity being the isopropanol/water extract treated with XAD-7, exhibiting a threshold concentration of 10μg/mL. At the range of concentrations studied all extracts did not inhibit the ICAM-1 expression in activated HUEVCs.

Conclusions: The isopropanol/water extract of Echinacea angustifolia is a potent antioxidant but it does not inhibit the inflammatory activation of HUEVCs. Further studies are necessary to investigate the compound(s) responsible for this activity and the underlying mechanisms.

EP137 / #739, TOPIC: ASA01 - PATHOGENESIS OF Atherosclerosis / ASA01-12 OTHER, POSTER VIEWING SESSION.

A MULTIPLE CASE STUDY OF THE EFFECT OF PHYSICAL ACTIVITY BEFORE AND AFTER COVID 19 ON PULSE WAVE VELOCITY IN BLIND PEOPLE LIVING INDEPENDENTLY

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Background and Aims: COVID19 has been prevalent since 2020. The effect of health education on pulse wave velocity (PWV) in blind people who have been living independently for more than 5 years using a case study. To determine the effect of physical activity on PWV before and after COVID19 in blind people.

Methods: The subjects were Five people who were not infected with COVID19 after 5 years of health education in a population of blind people living in a suburban area of Japan. The study design was a case study, a 3-year cohort at two consecutive time points. Anthropometric measurements, PWV measurements (PR203-2), and interviews about lifestyle in November 2021. Descriptive statistics, Characteristic behaviors are described. Results: The mean(SD) age was 68(11) years (SD). Height ,163(5.1) cm, weight, 64.6(8.1) kg. BMI 24.2(2), body fat, 33.7(3.8%), muscle mass percentage 23.3(3.8%), change from November 2018 was +4 years, +0.16 cm, +0.4(2.3)kg, +0.4(3.3), +0.4(3.3)% and +0.6(1.6), respectively. Left BpPWV was 1486 (102) cm/sec, right was 1476 (91) cm/sec, left ABI was 1.11 (0.11), right ABI was 1.12 (0.15), and the changes from November 2018 were -28.6 (148) cm/sec, 16 (198) cm/sec, -0.05 (0.07) and -0.06 (0.1), respectively. As a characteristic behavior, all but one of the patients who lost the
Background and Aims: WASP and WASL are GTPases that control actin polymerization, and their dysregulation is associated with different forms of leukocyte accumulation and cytoskeletal abnormalities. WASp deficiency causes several immune deficiencies, including leukocyte adhesion defects. WASL is involved in the regulation of the cytoskeleton and the organization of the actin network. However, its role in immune cells remains unclear.

EP139 / #1060, TOPIC: ASA01 - PATHOGENESIS OF ATHEROSCLEROSIS / ASA01-12 OTHER, POSTER VIEWING SESSION.

EXTRACELLULAR VESICLES ENRICHED IN PCSK9 ARE INDICATIVE OF PRO-ATHEROGENIC PHENOTYPE - IN VITRO AND IN VIVO EVIDENCE

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Background and Aims: Extracellular vesicles (EVs) are secreted into the extracellular space by several cell types. EVs carry proteins, lipids, and nucleic acids. EVs play a significant role in the process of atherosclerotic cardiovascular diseases (ASCVD). In the pathophysiology of ASCVD, pro-protein convertase subtilisin/kexin type 9 (PCSK9) appears to play a crucial role, e.g., PCSK9 influences vascular smooth muscle cells (SMC) differentiation, migration and proliferation. Aim: To unveil the impact of EVs derived from human SMC overexpressing PCSK9 on the inflammatory milieu in vitro (THP-1 and derived-macrophages) and in vivo (zebrafish) models.

Methods: EVs isolated from SMC overexpressing or not PCSK9 (EVsPCSK9 and EVsCTR) express tetraspanins (CD9, CD63), Alix and -b (both 28 fold), IL-1 (94 fold), and IL-6 (10 fold); respectively and 152.3 nm and 160.7 nm, respectively). EVsPCSK9 carry a higher amount of PCSK9. In THP-1 and derived-macrophages, 24-h exposure to EVsPCSK9: (i) raised the gene expression of MCP-1 (27 fold), IL-1 and -6 (both 28 fold), IL-6 (94 fold), and IL-8 (4 fold); (ii) raised the phosphorylation of STAT3 and decreased that of SOCS3; (iii) raised the uptake of oxLDL; (iv) decreased the mitochondrial respiration; (v) increased the migratory capacity. Local injection of EVsPCSK9 in the hindbrain ventricle of the Tg(mpeg-CFP) zebrafish led to a local recruitment of neutrophilic macrophage.

Background and Aims: WASP and WASL are GTPases that control actin polymerization, and their dysregulation is associated with different forms of leukocyte accumulation and cytoskeletal abnormalities. WASp deficiency causes several immune deficiencies, including leukocyte adhesion defects. WASL is involved in the regulation of the cytoskeleton and the organization of the actin network. However, its role in immune cells remains unclear.

EP140 / #978, TOPIC: ASA01 - PATHOGENESIS OF ATHEROSCLEROSIS / ASA01-12 OTHER, POSTER VIEWING SESSION.

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