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### **P99: THE EFFECT OF L-ARGININE ON THE VASCULAR FUNCTION IN HEALTHY TRAINED AND SEDENTARY SUBJECTS**

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young. In the older adults, neither FMD (SALS:  $3.5 \pm 1.4$  to  $4.6 \pm 1.2\%$ ; PLAC:  $3.4 \pm 1.2$  to  $2.5 \pm 1.3\%$ , ANOVA  $P = 0.98$ ) nor CFPWV (SALS:  $8.1 \pm 0.5$  to  $8.4 \pm 0.6$  m/sec; PLAC:  $7.6 \pm 0.5$  to  $7.6 \pm 0.4$  m/sec, ANOVA  $P = 0.41$ ) was altered after 4 weeks of salsalate vs. placebo.

These data fail to demonstrate that chronic salsalate improves age-associated aortic stiffness or endothelial dysfunction in older adults. Future studies should test longer duration therapy or more selective inflammatory inhibitors on vascular aging in humans.

#### P96

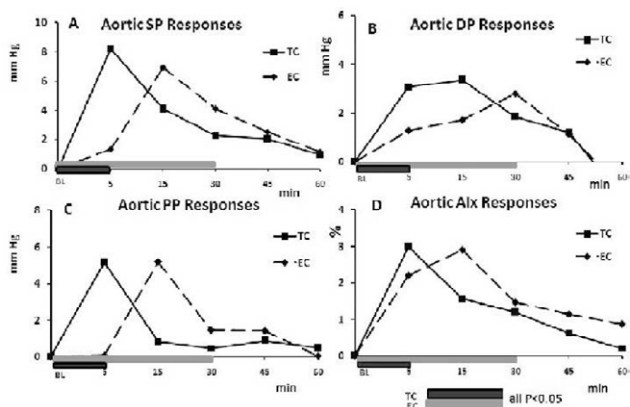
##### ACUTE EFFECT OF ELECTRONIC CIGARETTE SMOKING ON PULSE PRESSURE AMPLIFICATION IN YOUNG SMOKERS

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**Purpose/Background/Objectives:** We investigated the acute effect of electronic cigarette (EC) smoking on the aortic pressure waveform amplification. We also sought to compare the effect of EC and combustible cigarette (TC) smoking on central haemodynamics.

**Methods:** We studied 24 smokers (age:  $30 \pm 8$  years) on 3 separate occasions: a) tobacco cigarette (nicotine content, 1.2 mg) over 5 minutes, b) EC (18 mg E-liquid) for a period of 30 minutes, and c) nothing (sham procedure) for 60 minutes. Smoking EC for 30 min (15 puffs) was chosen to mimic the common pattern of EC smoking.

**Results:** Both TC and EC smoking caused a significant increase in brachial pressures and heart rate (HR), and the differences in blood pressure (BP) and HR responses between the two smoking forms were not significant. The aortic pressures also increased significantly after smoking both TC and EC, with the greatest changes seen in the first 5 minutes after TC smoking and 15 minutes EC smoking (figures 1A-C, all  $P < 0.05$ ). Although Alx, decreased in both two smoking forms, by applying a correction factor for changes in HR, the Alx increased significantly after TC (by 3.0% at 5 minutes,  $P < 0.05$ ) and EC (by 2.9% at 15 minutes,  $P < 0.05$ ) (figure 1D).



**Conclusions:** Electronic cigarette smoking exerts an unfavourable and comparable to that of TC smoking acute effect on aortic pressure waveform amplification. Given the prognostic role of central haemodynamics on cardiovascular disease risk, EC may still be considered a hazardous smoking method.

#### P98

##### EFFECT OF LONG-TERM ANDROGENIC TREATMENT ON THE STRUCTURAL AND FUNCTIONAL PROPERTIES OF THE GREAT ARTERIES OF FEMALE TRANSEXUALS

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**Background:** Androgens act directly on the vasculature through your connection to the androgen receptor in the vascular wall, and can promote changes in structural and functional vascular properties.

**Objective:** To evaluate the structural and functional properties of large arteries in TF in prolonged use of testosterone esters and compare them with those of a control group men and women.

**Patients and methods:** 42 patients with diagnosis of TF ( $42 \pm 10$  years) in treatment with testosterone esters for at least 1 year (1–38 years) and 147 healthy controls matched for age and BMI were submitted to evaluation of carotid parameters by radiofrequency ultrasound (WTS®): intima media thickness (IMT), diameter and relative distension. The carotid-femoral pulse wave velocity (PWVcf) was measured by Complior® device.

**Results:** The TF showed higher ( $p < 0.01$ ) PWVcf ( $7.2 \pm 0.8$  m/s) than the male controls ( $6.6 \pm 0.9$  m/s), but not than female controls ( $7 \pm 1$  m/s). When categorized by age, considering median values of age,  $TF \geq 42$  years showed higher PWVcf than male and female controls, independently of BP values. There is no differences in carotid parameters between TF and control groups, but obese TF presented higher carotid diameter ( $6944 \pm 527$  vs.  $6438 \pm 555$   $\mu$ m and IMT ( $691 \pm 72$  vs.  $601 \pm 126$   $\mu$ m), and lower carotid distension ( $4,8 \pm 1,5$  vs.  $6,5 \pm 2,1\%$ ) than lean TF. The PWVcf was significantly correlated to age ( $r = 0.63$ ), time of androgenic treatment ( $r = 0.37$ ) and waist-hip ratio (0.39) in TF.

**Conclusion:** Older TF subjects and TF with prolonged treatment had higher aortic stiffness. Obese TF presented worst carotid structural and functional markers

#### P99

##### THE EFFECT OF L-ARGININE ON THE VASCULAR FUNCTION IN HEALTHY TRAINED AND SEDENTARY SUBJECTS

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**Background:** The aim of our study was to determine whether the use of food supplement L-arginine improves vascular function, which could be beneficial in preventing the formation and development of cardiovascular diseases. We investigated differences between trained and sedentary subjects.

**Method:** Measurements were performed in healthy normotensive men, divided into four groups, according to age and physical activity: 12 young sedentary (YS) (mean age  $23,5 \pm 2,4$ ) and age matched trained (YT) ( $N = 18$ ); 11 elder sedentary (ES) (mean age  $45,7 \pm 7,5$ ) and age matched trained (ET) ( $N = 12$ ) subjects. Parameters were measured at rest with the Task Force Monitor device (CNSystems Medizintechnik, Austria) before and after administration of 0.9 g L-arginine.

**Results:** After ingestion of L-arginine the heart rate in all groups statistically significantly decreased (YS  $70.4 \pm 4.2$  vs.  $66.3 \pm 3.3$ ; YT  $62.1 \pm 2.7$  vs.  $58.3 \pm 2.0$ ; ES  $69.6 \pm 3.2$  vs.  $62.7 \pm 2.7$ ; ET  $58.0 \pm 1.8$  vs.  $53.6 \pm 1.2$  beats/min) (paired t-test,  $p < 0.05$ ). The cardiac output decreased in three groups (YT  $7.04 \pm 0.4$  vs.  $6.32 \pm 0.3$ ; ES  $6.95 \pm 0.5$  vs.  $5.9 \pm 0.4$ ; ET  $7.08 \pm 0.6$  vs.  $6.58 \pm 0.4$  L/min) (paired t-test,  $p < 0.05$ ). The systolic ( $126.3 \pm 4.1$  vs.  $120.0 \pm 3.2$  mmHg) and diastolic pressure ( $77.6 \pm 2.5$  vs.  $74.3 \pm 1.9$  mmHg) (paired t-test,  $p < 0.05$ ) decreased in the ES group.

**Conclusions:** The systemic effect of L-arginine was observed. Improved cardiovascular function in response to L-arginine could justify the use of dietary L-arginine supplementation.

#### P100

##### TRIAL OF EXERCISE TO PREVENT HYPERTENSION IN YOUNG ADULTS (TEPHRA): RATIONALE AND PROTOCOL

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**Background:** Hypertension or pre-hypertension in young adults is unusual and more often linked with an adverse family or pregnancy history, such