

P-690**SIX-MONTH EFFECTS OF THE HORMONE REPLACEMENT THERAPY ON ARTERIAL WAVE REFLECTION, BLOOD PRESSURE AND PLASMA LEVEL OF ANGIOTENSIN-I CONVERTING ENZYME IN POSTMENOPAUSAL HEALTHY WOMEN**

Valeria Ferrero, Antonella Deorsola, Giovanni Ugliengo, Mauro Feola, Flavio Ribichini, Antonello Vado, Eugenio Principe, Bruno Favilla, Pietro Leli, PierDino Rattazzi, Eugenio Uslenghi.

¹Cardiology, Ospedale S.Croce, Cuneo, Italy, ²Gynecology, Ospedale S.Croce, Cuneo, Italy

In postmenopausal women the incidence of coronary events is increased. The cardioprotective effects of hormone replacement therapy (HRT), observed in primary prevention trials, may in part be due to the effects of estrogens on arterial wall stiffness. Angiotensin-I Converting Enzyme (ACE) is involved in the regulation of vascular tone and its action seems to be more important after estrogen's drop.

Between April 1999 and June 2000, 47 postmenopausal healthy normotensive women started HRT. Plasma ACE level, Pulse Wave Velocity (PWV) of the carotid-femoral segment and 24-hour ambulatory blood pressure monitoring (ABPM) were assessed before and after 6 months of HRT. The pre-treatment results were: age: 54 ± 4 (range 45-61 years); basal ACE level: 27 ± 17 , (range 3-74 U/L); basal PWV: 10.5 ± 2 , (range 7-15 m/s); and 24-hour ABPM: mean systolic 117 ± 9 , mean diastolic 74 ± 7 mmHg. No correlation was found between basal ACE level and basal PWV ($r=0.06$) or basal ABPM (systolic $r=0.1$, diastolic $r=0.2$). Arterial stiffness increased with age ($r=0.1$), although not significantly ($p=0.3$). So far, 6-month follow-up was obtained in 35/47 treated women. No differences were observed between the basal and the follow-up paired data as to: PWV (10.53 ± 2 vs 10.46 ± 2 ; $p=0.8$), mean systolic pressure (121 ± 9 vs 121 ± 7 ; $p=1$) and mean diastolic pressure (76 ± 7 vs 76 ± 7 ; $p=0.7$). However, HRT caused a significant reduction of the basal plasma ACE level (27.8 ± 19 vs 19.3 ± 14 ; $p=0.04$).

In conclusion, arterial distensibility and blood pressure were not modified by the first six months of HRT, but plasma ACE level were significantly reduced in this population of healthy women. This indirect intervention on plasma ACE level may be involved in the long-term effect of HRT.

Key Words: Hormone replacement therapy, ACE plasma level, arterial wall stiffness

P-691**EVALUATION OF OXIDATIVE STATUS IN A GROUP OF POSTMENOPAUSAL HYPERTENSIVE WOMEN**

Dmitriy N. Emilianov, Serguei V. Nedogoda, Kate V. Buvailik, Galina V. Mazina. ¹Therapy, Medical Academy, Volgograd, Volgograd, Russia

To evaluate an antioxidant status of plasma in a group of postmenopausal hypertensive women before and after the 3 month treatment with ACE inhibitors (perindopril, 2-4 mg/day), calcium antagonist (nifedipine slow release 20 mg/day) and beta-blocker (talinalol, 100 mg/day).

60 mild-moderate postmenopausal hypertensive women, aged between 42-48 years, without other diseases, have been evaluated antioxidant status in plasma with antioxidant enzymes. It was compared with the status of 60 hypertensive women aged 28-36 years without menopause. None of the subjects was taking any drug or vitamin supplement and none was affected by any acute or chronic disease (except arterial hypertension) plasma erythrocyte Superoxide Dismutase (SOD) were evaluated as indexes of antioxidant status; plasma Malondialdehyde (MDA) was also measured by HPLC reaction, as end-product of lipid peroxidation. Differences between the groups were tested by Student's t-test. Significant values were considered when $p < 0.05$.

MDA levels were 56% ($p < 0.05$) higher and SOD 34% ($p < 0.05$) lower at postmenopausal hypertensive group. These changes were associated with increase of cholesterol by 17% ($p < 0.05$), triglycerides by 24% ($p < 0.05$) and the decrease of LDLP by 19% ($p < 0.05$) at the same group. The antihypertensive treatments show different influence on an-

tiioxidant status and lipid profile. The most positive effect was after perindopril treatment: decrease MDA by 24% ($p < 0.05$), cholesterol by 9% ($p < 0.05$) and triglycerides by 13% ($p < 0.05$).

Slow release nifedipine did not change the mentioned parameters and talinalol significantly increased serum lipids and MDA.

Our results, showing an impaired antioxidant status and higher plasma MDA levels, suggest an increased free radicals generation at postmenopausal hypertensive women. H. This may inactivate NO and increase serum lipids, which may be normalized by perindopril.

Key Words: postmenopausal hypertension, correction, antioxidants

P-692**HYPERTENSION IN AFRICAN AMERICAN WOMEN: INFLUENCE OF ANGER EXPRESSION STYLE**

Mary S. Webb, Jason Beckstead. ¹College of Nursing, University of South Florida, Tampa, FL, United States

Hypertension represents a critical health problem for African American women in the United States. The purpose of this study was to evaluate the influence of anger suppression on blood pressure, perceptions of strain, abdominal adiposity, and physical activity levels of 90 employed African American women. Measures for the study included (1) the State-Trait Anger Expression Inventory, (2) abdominal adiposity (waist, waist/hip ratio), (3) Paffenberger Physical Activity Questionnaire, (4) Personal Strain Inventory, and (5) blood pressure. Correlation coefficients were used to evaluate the relationships among the study variables; ANOVAS were used to test for significant differences between women classified as hypertensive (defined as a SBP ≥ 140 mmHg, or a DBP ≥ 90 mmHG, or use of hypertensive medications) or normotensive. Forty-three women were classified as hypertensive; 47 were normotensive. Anger suppression was significantly related to DBP, abdominal adiposity, physical activity level, and feelings of physical and psychological strain. The hypertensive women had significantly higher levels of SBP, DBP, anger suppression, abdominal adiposity, and lower levels of physical activity. The findings suggest that African American women may benefit by further education regarding the influence of anger on blood pressure elevation. Efficacy of interventions to assist in therapeutic methods of anger diffusion should be evaluated.

Key Words: African American Women, Anger Suppression, Hypertension

P-693**NITRIC OXIDE, PERIPHERAL VASCULAR RESISTANCE AND CARDIAC OUTPUT DURING NORMAL PREGNANCY IN ADOLESCENTS**

A. V.B. Duarte, R. R. Eiras-Filho, M. L.G. Rodrigues, A. L.S. Tronco, K. M.A. Aquino, C. S. Moulin, E. A. Francischetti, V. Genelhu-Fagundes. ¹Hypertension Clinic - Clinex, Rio de Janeiro State University, Rio de Janeiro, RJ, Brazil

During normal gestation nitric oxide (NO) has been recognized as a regulator of blood pressure (BP) through its effects on peripheral vascular resistance (PVR), counteracting the increase cardiac output (CO). We studied in 20 normal pregnant adolescents: PVR, CO, mean BP (MBP) using thoracic bioimpedance and serum levels of NO, throughout pregnancy: < 20 weeks, 20 to 30 weeks and > 30 weeks. 11 non pregnant adolescents were used as a control group (C). In pregnant adolescents the levels of NO were significantly higher at < 20 wks: $27.8 \pm 1.6 \mu\text{M}$ ($p = 0.03$) and 20 to 30 wks of gestation, $29.6 \pm 2.2 \mu\text{M}$ ($p < 0.03$), but not after 30 wks 26.3 ± 2.2 , when compared to control individuals ($22.3 \pm 1.3 \mu\text{M}$). PVR decreased in the first two periods and increased in the latest (1102 ± 78 and 1016 ± 64 vs 1178 ± 66 dyne.sec.cm⁻⁵, respectively, $p < 0.05$ comparing to values of C (1409 ± 85 dyne.sec.cm⁻⁵). The values of CO were different only at 20 to 30 wks when compared to C (9.4 ± 0.5 vs 6.8 ± 0.5 L/min, $p < 0.05$). BP did not differ between the two groups, in any period of gestation. We concluded that NO is an important mediator of the circulatory homeostasis during normal pregnancy.

Key Words: peripheral vascular resistance, nitric oxide, pregnancy