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P4.34: ARTERIAL STIFFNESS CHANGES DURING ACUTE EXERCISE IN PATIENTS WITH UNTREATED STAGE I ESSENTIAL HYPERTENSION

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Conclusions: Subjects with FH have an increased thrombin generation potential, while an intact fibrinolysis. ANG has proinflammatory effects, similar in FH and healthy controls, but does not affect coagulation or fibrinolysis.

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HAEMODYNAMIC PATTERN OF OBESE PATIENTS ON PRIMARY CARDIOVASCULAR PREVENTION

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Background: Impedance Cardiography (ICG) is a non-invasive method to assess the main haemodynamic parameters: cardiac output, peripheral resistance, cardiac work, and thoracic fluid content. There is no agreement about the haemodynamic pattern in obese patients and it is very important at the time to decide adequate therapeutic interventions.

Objective: To study the haemodynamic pattern in obese patients

Methods: We compared 95 male obese patients with 212 matched male lean controls between DEC2010 and JAN2011 derived for routine cardiovascular evaluation without history of CV disease, for Primary CV Prevention. We used an Impedance Cardiograph (Z Logic (R)) following standard procedures. **Results:** (only signif.) Obese patients presented higher BP, HR, BMI and BSA. They had increased Thoracic Fluid Content and higher Peripheral Resistance Index and reduced Aortic compliance.

Cardiac Index and cardiac acceleration index were lower and pre-ejective period was longer in the obese group. (see table attached)

Conclusion: Obese patients compared with matched controls present increased thoracic fluid content, peripheral vascular resistance and aortic stiffness associated with depression of cardiac function. This pattern may be associated to early stages of ventriculo arterial uncoupling and increased CV risk.

PARAMETERS	LEAN (n=212)	OBESE (n= 95)	SIGNIF
AGE (yrs)	50,1 ± 5,7	50,1 ± 5,8	NS
WEIGHT (kgs)	82,1 ± 8,3	102,2 ± 11,9	<0.001
HEIGHT (cms)	176,6 ± 6,1	175,9 ± 6,9	NS
BMI (Kg/m2)	26,3 ± 1,8	33 ± 3,1	<0.001
BSA (m2)	2 ± 0,1	2,2 ± 0,2	<0.001
SBP (mmHg)	132 ± 17,5	140 ± 16,4	<0.001
DBP (mmHg)	82,3 ± 11,1	88 ± 9,3	<0.001
HR (bpm)	59,2 ± 10,1	63 ± 11,2	.003
THOR IMP (Z0) (Ohms)	23,9 ± 2,2	22,6 ± 2,5	<0.001
TFC (kohms. (-1))	42,1 ± 3,9	44,7 ± 5	<0.001
CO (l/min)	4,8 ± 1,3	4,7 ± 1	NS
CI (l/min /m2)	2,5 ± 1	2,2 ± 0,6	0.001
PVR (dyn.seg.cm-5)	1683,9 ± 528,3	1855,2 ± 643,3	0.024
PVRI (dyn.seg.cm-5.m2)	3341,8 ± 1074,3	4016 ± 1482,1	<0.001
PREEJECT P (mseg)	119 ± 21,6	127,6 ± 18	<0.001
EJECTIVE P (mseg)	324,4 ± 33,3	312,4 ± 42,5	0.016
CARD ACC IND (1000.seg)	68,3 ± 15,3	59,8 ± 14,1	<0.001
AO COMPL (ml/mmHg)	1,8 ± 0,7	1,6 ± 0,6	0.011

Ref: Thor Imp: Thoracic Impedance TFC: Thoracic Fluid Content CO: Cardiac Output CI: Cardiac Index PVR: Peripheral Vascular Resistance PVRI: Peripheral Vascular Resistance Index Preeject P: Preejective Period Ejective P: Ejective Period Card Acc Ind: Systolic Acceleration Index Ao Compl: Aortic Compliance (Zc)

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ASSOCIATION BETWEEN DEPRESSION, ANXIETY AND INFLAMMATION PROCESS IN POSTOPERATIVE PERIODS OF CORONARY ANGIOPLASTY AND AORTO-CORONARY BYPASS GRAFT SURGERY

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Purpose: Depression and anxiety has been related to a higher risk of developing coronary heart disease, but the mechanism that accounts for this association is unclear. The aim of our study was to investigate the association between history of depressive episode and anxiety and presence of low-grade systemic inflammation as measured by serum C-reactive protein in postoperative period of coronary angioplasty (PCA) and aorto-coronary bypass graft surgery (CABG).

Methods: The research was performed in 80 patients (n=80), mean age 60±15 years. These patients have no high cholesterol level, high body mass index and n= 64 (80%) of them are no smoker. To evaluate depression we used Beck depression scale. Anxiety was assessed by the Spilberger State-trait anxiety scale. CRP was measured in venous blood.

Results: In angioplasty group patients who had increased level of CRP had high degree of depression and trait anxiety p=0.001; p<0.001. In aorto-coronary bypass graft surgery group elevated level of CRP was also associated with high degree of depression p=0.001. In PCA and CABG groups patients who were rehospitalized with signs and symptoms of heart failure (NYHA II-III) during 2 year follow up period had high and moderate degree of depression p = 0.003 and anxiety p=0.001 (state anxiety p = 0.001; trait anxiety p = 0.001).

Conclusions: Our study demonstrated association between depression, anxiety and increased c-reactive protein level. These results may have important implications in explaining the pathophysiological mechanisms linking depression and anxiety to cardiovascular disease.

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ARTERIAL STIFFNESS CHANGES DURING ACUTE EXERCISE IN PATIENTS WITH UNTREATED STAGE I ESSENTIAL HYPERTENSION

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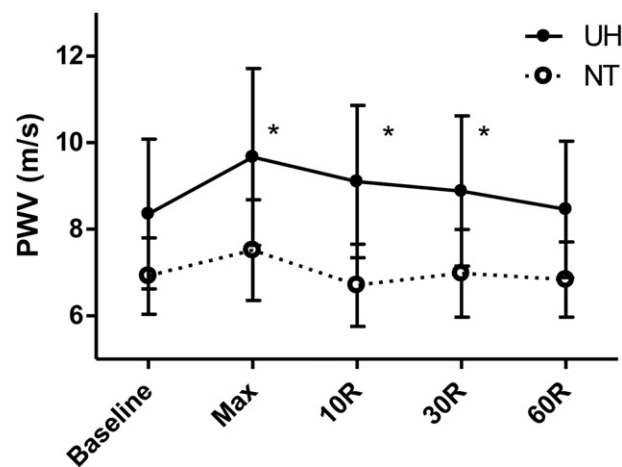
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Objective: Acute exercise exerts potentially harmful effects on the cardiovascular system. However, underlying mechanisms, especially regarding the role of arterial stiffness, remain largely understudied. Thus, we sought to investigate arterial stiffness changes after acute exercise in young patients with untreated, recently diagnosed stage I essential hypertension (UH) compared to healthy individuals (NT).

Design and Methods: We studied 25 consecutive UH (Blood Pressure, BP): 147.2±6.2/93.5±8.1 mmHg and 15 age- and sex-matched NT volunteers (BP: 118.2±10.9/75.8±10.3 mmHg). All subjects underwent a treadmill exercise test (Bruce protocol), up to 85% of the maximal heart-rate according to age and gender. Aortic PWV was performed by applanation tonometry (Sphygmocor device) at baseline, at the end of the test (max) and at 10, 30 and 60 minutes later (10R, 30R and 60R respectively).

Results: At all time-points UH exhibited significantly higher aortic PWV and BP levels than NT. Systolic BP rose significantly at max and subsequently fell in levels similar to baseline, in both groups. Aortic PWV increased significantly at max (p<0.001), 10R (p=0.001), and 30R (p=0.003) compared to baseline in UH (Figure). In contrast, no significant changes were observed after exercise in NT.

Conclusions: Arterial stiffness is impaired following high-intensity acute exercise in UH and PWV remains increased despite BP fall in pre-exercise levels. These prolonged effects on arterial stiffness indicate that high-intensity acute exercise is potentially harmful, even in the early stages of essential hypertension.



*, p<0.01 for PWV values compared to baseline in UH