increased as the number of antihypertensive drugs increased:

	Number of antihypertensive treatments			
	1	2	3	≥4
Patients (%)	2224 (45)	1696 (34)	741 (15)	278 (6)
Age (y)	69 ± 7	70 ± 7	71 ± 6	71 ± 6
Casual BP (mmHg)*	150/84	151/84	156/86	161/87
Normalized (%)**	29	27	19	12
SBPM (mmHg)*	143/82	146/82	151/83	156/84
Obesity (%)*	16	20	23	26
Diabetes (%)*	11	16	20	21
Dyslipidemia (%)*	41	44	50	48

* *Adjusted p for age <0.001 - ** p < 0.001.*

Despite the increase of antihypertensive drugs, 74% of elderly hypertensive are not sactisfatorily controlled. High risk patients received more often several antihypertensive drugs. The follow-up of this large cohort study would be ended on 2001

Key Words: Elderly; epidemiology; antihypertensive treatment; self blood pressure measurement

G024

COMPLEX SEGREGATION ANALYSIS OF BLOOD PRESSURE AND HEART RATE MEASURED BEFORE AND AFTER A 20-WEEK ENDURANCE EXERCISE TRAINING PROGRAM IN THE HERITAGE FAMILY STUDY

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Complex segregation analysis of baseline resting blood pressure (BP) and heart rate (HR) and the responses to training (post-training -baseline) were performed in a sample of 482 individuals from 99 Caucasian families who participated in the HERITAGE Family Study. This study also analyzed the responses to training in 2 subsets: (1) the 'high' subsample, 45 families with at least 1 member whose baseline BP is in the high end of the normal BP range; (2) the 'nonhigh' subsample, the 54 remaining families. Baseline SBP was influenced by a multifactorial component (23%) which was independent of BMI. Baseline DBP was influenced by a putative recessive locus, which accounted for 31% of the variance, and which may impact BMI as well, and there was also a multi-factorial component (29%). Baseline HR was under influence of a putative dominant locus independent of BMI, which accounted for 31% of the var. In the 'high' subsample, SBP response was under influence of a putative recessive locus, which accounted for 44% of the var. HR response was influenced by a major effect with an ambiguous transmission from parents to offspring. For the responses, no familiality was found in the whole sample and the 'nonhigh' subsample, and for DBP response to training in the 'high' subsample.

Key Words: Heritability; multifactorial effect; major effect; major gene effect

G025

VALSARTAN PROVIDES EFFECTIVE ANTIHYPERTENSIVE RESPONSE IN AFRICAN-AMERICANS: AN INTEGRATED ANALYSIS

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African-Americans (AA) tend to have a lesser antihypertensive response than other ethnic groups to angiotensin-converting enzyme inhibitors. Valsartan is a potent, highly selective angiotensin II receptor blocker. This study examines the antihypertensive efficacy of valsartan among AA and non-AA groups. An integrated analysis was performed using data from nine randomized placebo-controlled valsartan trials of similar design. 4067 patients with hypertension were included in the efficacy analysis and received valsartan 10–320 mg or placebo once daily for ≥4 wk. 7.8% were AA. ANCOVA was used for statistical analysis.

Clinically relevant blood pressure (BP) reductions were achieved at doses ≥80 mg. 302 AA received valsartan 80 mg (n=159), 160 mg (n=40), 320 mg (n=17), or placebo (n=86). 3214 non-AA received valsartan 80 mg (n=1634),160 mg (n=367), 320 mg (n=133), or placebo (n=1080).

Placebo-adjusted reductions in mean BP (mm Hg) ±SD

Valsartan dose (mg)		80	160	320
Systolic	AA	5.3 ± 1.8	7.9 ± 3.6	12.2 ± 4.9
	non-AA	6.9 ± 0.7	8.9 ± 1.3	9.0 ± 1.8
Diastolic	AA	5.4 ± 1.0	6.8 ± 2.0	7.2 ± 2.7
	non-AA	3.8 ± 0.4	4.9 ± 0.8	6.1 ± 1.0

Each valsartan dose produced statistically significant reductions in diastolic BP ($P<0.01$) and systolic BP ($P<0.03$) compared with placebo, in both AA and non-AA. The antihypertensive response increased with increasing dose.
Conclusions: Valsartan is effective in the treatment of hypertension in both AA and non-AA. The antihypertensive response is dose dependent for both AA and non-AA.

Key Words: Angiotensin II receptor clocker; efficacy; ethnic group; hypertension; valsartan

G026

FAMILIAL AGGREGATION OF CARDIOVASCULAR RISK FACTORS—THE RIO DE JANEIRO STUDY

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Disturbance of lipid and carbohydrate metabolism, overweight, and high blood pressure seem to be strongly aggregated in families, constituting the multiple metabolic syndrome. In order to investigate these findings, 259 children and adolescents, came from a blood pressure (BP) study developed in 1987–89, were evaluated with their parents (n=414) and siblings (n=519) 10 years later. Clinical (BP, weight, sex, and age) and laboratorial (cholesterol [C], HDL cholesterol [HDL], LDL cholesterol [LDL], triglycerides

[TG], and insulin [I]) data were obtained. A standardized regression analyses of the residuals (predicted value subtracted from measured value) was adapted for each lipid, anthropometric and BP variables. Sex, age, and weight were used to adjust BP correlations and sex, age, weight, and BP were used to control lipids correlations. The correlation coefficients found were expressed in the table bellow:

Relationship	C[1]	HDL[1]	I[1]	LDL[1]	TG[1]	SBP[2]	DBP[2]
F X M	0,070	0,282**	0,161	0,105	0.190*	−0,005	0,010
F X TI	0,182*	0,319**	0,027	0,163	0,091	0,053	0,051
F X S	0,331**	0,280**	0,072	0,199*	0,150	0,129	0,204**
F X Sons	0,269**	0,298**	0,043	0,183**	0,127*	0,094	0,131*
M X TI	0,443**	0,192**	0,063	0,376**	0,150*	0,278**	0,232**
M x S	0,326**	0,409**	0,095	0,264**	0,142*	0,045	0,128*
M x Sons	0,387**	0,292**	0,077	0,319**	0,151**	0,158**	0,179**
TI x S	0,398**	0,288**	0,123	0,417**	0,140*	0,208**	0,165**

** $p < 0.05$; ** $p < 0.01$; [1]controlled by age, sex, weight, and SBP; [2] controlled by age, sex, and weight; F: father; M: mother; TI: target individual; S: siblings; SBP: systolic blood pressure; DBP: diastolic blood pressure.*

These data show a strong familial aggregation of cardiovascular risk factors, specially with mothers and sons, suggesting that genetic and environmental factors play an important role in this determinism. Moreover, these findings reinforce the concept that primary prevention should begin early in life.

Key Words: Blood pressure; risk factors; familial aggregation

G027

TRACKING EFFECT OF BLOOD PRESSURE, OVERWEIGHT AND METABOLIC ALTERATIONS IN YOUNG SUBJECTS FOLLOWED-UP FOR A 10-YEAR-PERIOD—THE RIO DE JANEIRO STUDY

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We investigated the aggregation of the tracking effect of blood pressure (BP) with overweight and metabolic abnormalities in young subjects followed-up for a 10-year-period (The Rio de Janeiro Study). 215 young subjects (116M) had their BP and body mass index (BMI) obtained at their schools in 1987/88 (12.69±1.65y) and at the hospital in 1997/98 (21.60±2.01y). BP was measured 3 times, and the third measure was used for analysis. Subjects were considered normotensive when BP percentile was ≤ 50 at school or < 140/90 mmHg at the hospital; hypertensive when BP percentile ≥ 95 at school or ≥ 140/90 mmHg at the hospital. The cut-off points for BMI were 85th percentile at school or 25 kg/m^2 at the hospital. Cholesterol (C), tryglicerides (TG), LDL-C, HDL-C, glucose and insulin (I) were measured after 12h of fasting, at the hospital. The main results were: 1) After 10 years, 95 (93.1%) normotensive remained normotensive (GI); 38 (34.9%) hypertensive remained hypertensive (G2); 7 normotensive became hypertensive (G3) and 71 hypertensive became normotensive (G4); 2) In G1, 81.1% remained without overweight; in G2, 31.6% remained overweight and 26.3% became overweight; in G3, 28.6% remained overweight; and in G4, 60.6% remained without overweight and 12.7% were no longer overweight (χ^2=43.89, p<.0001); 3) G2 had higher BP, BMI, logI (p<.001) and lower HDL-C (p<.02) 10 years later; 4) Of the GI 98.9% had normal I (<30ng/dL), while 16.7% of G2 had abnormal values (χ=12.16, p<.01); 5) Looking for risk factors (RF) aggregation, in G1, 74.5% didn't have any RF, while 91.8% from G2 had 1 to 3 RF (χ^2=107.68, p<.0001); 6) In logistic regression, BMI was the only variable correlated with abnormal BP (p<.02). In conclusion, early BP alterations and its tracking effect were associated with overweight and metabolic abnormalities in young subjects followed-up for a 10-year-period. These findings reinforce the concept that primary prevention of hypertension should begin early in life together with other risk factors management.

Key Words: Risk factors; primary prevention; young subjects; overweight; blood pressure

G028

RELATIONSHIP BETWEEN THE CONTROL OF HYPERTENSION AND THE COMPLIANCE TO TREATMENT. RESULTS OF AN EPIDEMIOLOGIC STUDY

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Objective: To know the relationship between the control of HTN and the compliance to pharmacologic treatment, in a random hypertensive population.
Methods: Cross-sectional epidemiologic study achieve in the province of Albacete, located in the south-east of Spain. Bietapic random selection of participants. In the first phase of the study we selected 4 Primary Care Centers (PCC), 2 urban and 2 rural. In the second phase we selected a random sample, stratified by age and sex, of 600 participants (150 of each PCC). The participants were hypertensives with pharmacologic treatment, registered in the PCC. We achieved a home visit in all participants, in which it was evaluate the compliance with pills recount, and it was achieved 3 BP measurements (Hg sphygmomanometer and semiautomatic device, Omron-Hem 705).
Results: We achieved 583 home visits; 392 cases were females (67.2%) and 191 males (32.8%). Compliance was evaluated in 487 participants (83.5%), 330 females and 157 males. 55.2% had a low compliance (<80%). There were not significative differences in the compliance between sex and age groups. The relationship between compliance and good control of HTN (BP<140/90) was:

	Good Control	Bad control
Normal Compliance	93 (42.7%)	125 (57.3%)
Low Compliance	116 (43.1%)	143 (56.9%)

The relationship between control and compliance to the first medical treatment was different between groups (78.4% in normal control group vs 73.2% in low control group; p<0.05).
Conclusions: In this epidemiologic study there are not significative differences in the compliance to pharmacologic