230 ± 117 mg/dl (p < 0.001) at 2 hours after meal, 258 ± 150 mg/dl (p < 0.001) at 4 hours after meal, and 176 ± 114 mg/dl (p = 0.001) at 6 hours after meal. FMD fell from 9.3 ± 3.7 % before meal to 5.2 ± 2.3 % (p < 0.001) at 2 hours after meal, 5.9 ± 3.5 % (p = 0.001) at 4 hours after meal, and 6.6 ± 2.8 % (p = 0.007) at 6 hours after meal. Serum GIP significantly decreased from 136 ± 82 ng/ml to 128 ± 55 ng/ml (p = 0.022) at 2 hours after meal, and returned to 191 ± 59 ng/ml (p = 0.115), and 134 ± 36 ng/ml (p = 0.657) at 4 and 6 hours after meal respectively. Urinary excretion of 8-PGF2α was 1286 ± 1401 pg/mg creatinine before meal, 1497 ± 1278 pg/mg creatinine (p = 0.733) at 2 hours after meal, but significantly increased to 2167 ± 1343 pg/mg creatinine (p = 0.016) at 4 hours after meal, and returned to 1114 ± 965 pg/mg creatinine (p = 0.750) at 6 hours after meal.

### Conclusion

Depletion of serum antioxidative enzymes occurred early after high-fat meal and followed by increased excretion of oxidative modification products in urine. Increased oxidative stress occurred after a high-fat meal might be responsible for endothelial dysfunction caused by postprandial hyperglycemia.

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### The Effect of the Adoption of the Mediterranean Diet on Clinical and Biochemical Markers Related to Cardiovascular Risk: The ATTICA Study

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BACKGROUND. Many investigators report that dietary factors exert their influence on cardiovascular disease (CVD) largely through their effects on blood lipids and lipoproteins, as well as on the other established modifiable risk factors. In this study, we aimed to evaluate the impact of the Mediterranean-type diet on several clinical and biochemical markers, related to CVD risk.

METHODS. The ATTICA study is a prospecive population-based cohort designed to enroll 3073 men and women from the greater area of Athens. A random algorithm was developed and stratified, by sex, age, sampling was performed, during 2001-2002. In this study we analyzed data from 520 men (18-86 years old) and 580 women (18-80 years old). The consumption of red meat, chicken, fish, vegetables, legumes, pasta, salads, cereals, fruits, dairy products, sweets and nuts was investigated as an average per week, during the past year, using a special nutritional questionnaire, developed by the National School of Public Health. We defined subjects who adopted this type of diet using as cut-off points the median values of the monthly food consumption score.

RESULTS. 684 (57%) of the subjects were more close to the Mediterranean diet. The adoption of Mediterranean diet reduces significantly total cholesterol (103±29 vs. 217±33 mg/dl, P<0.05), triglycerides (112±17 vs. 127±19 mg/dl, P<0.01), blood glucose concentration (106±3 vs. 94±1 mg/dl, P<0.01), fibrinogen (232±36 vs. 345±32 mg/dl, P<0.01), homocysteine (125±14 vs. 145±5 mg/dl, P<0.05) and diastolic blood pressure (75±12±92 vs. 77±12±82 mmHg, P<0.01). On the other hand, diet increases HDL-cholesterol (51±6 vs. 46±3 mg/dl, P<0.01) and apoA-I (167±23 vs. 157±22 mg/dl, P<0.01). No associations were found between the adoption of Mediterranean diet and Lip(a), unit accid, social status (described by educational and financial levels), age and sex (P=0.700).

CONCLUSION. Despite the "ecological" paradox regarding low CVD mortality in Mediterranean populations, where Keys and his colleagues reported at the 1970s, the protective effect of this traditional diet on atherosclerosis seems to be explained, mainly, due to the modification of several biochemical and clinical markers.

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### Differences in the Effects of Diet on Lipoprotein Subclasses Distribution Are Related to Triglycerides Levels


BACKGROUND. The high atherogenic small-size LDL particles are more prevalent in those with triglycerides (TG) levels above 150 mg/dl. Methods and Results: The aim of the present study was to evaluate the effects of 4 weeks of NCEP step II diet on triglyceride, lipoprotein a concentration and subclasses distribution relating them to basal TG levels. The study included 36 coronary heart disease patients with triglyceride (TG) levels above 150 mg/dl. Subjects were randomized to oral atenolol. Clinical data, fasting laboratory, and 8-hour PPL curves after a standard fatty meal were obtained for all pts and controls. Analysis of variance was used to test the effects of formulations of orange juice (OJ) which is rich in potassium, vitamin-C and anti-oxidants twice a day on endothelial function as assessed by blood pressure, brachial artery flow mediated dilation, and lipid levels. Patients were followed at two week intervals without medication change for a total of 14 weeks; 2-week vitamin-C fortified juice (JH), orange juice (OJ) alone, OJ fortified with vitamin-C and OJ fortified with vitamins C and E, and a 2-week washout (W) period without test products. Flow mediated dilation and the average of four resting BP readings each at least 6 minutes apart were recorded every two weeks. Results: After adjustment for age, gender, and baseline TG, OJ resulted in reductions in systolic (median -6.9%, p<0.001) and diastolic BP (median -3.5%, p=0.07). In addition, OJ use tended to be associated with improvements in HDL: Blood glucose levels were comparable between OJ vs. Baseline (ns), all OJ vs. WO (p=0.058). Conclusion: Orange juice appears to positively influence vascular regulation, and may have implications for public health strategies towards blood pressure control.

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### 1153-85 Postprandial Lipemia and Beta-Adrenergic Blocker Therapy After a First Acute Coronary Event

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BACKGROUND. Postprandial lipemia (PPL) after a fatty meal is elevated in patients (pts) with established coronary artery disease (CAD), which is known to worsen coronary and cerebrovascular disease progression. How early this response becomes abnormal is not known. These pts are usually treated with beta-blockers (BB) which can worsen the fasting lipid profile, but whose effects on PPL have not been previously investigated. The aims of this study were to evaluate the PPL in a group of pts soon after a first coronary event and assess the effects of BB on PPL.

METHODS. PPL after a standard fatty meal and the effect of BB therapy on PPL were studied in 50 pts with no previous history of CAD, one month after a first acute coronary event. Fifty healthy volunteers (sex- and age-matched) served as controls. Since admission half of the pts were randomized to oral atenolol. Clinical data, fasting laboratory, and 8-hour PPL curves after a standard fatty meal were obtained for all pts and controls. Results: Compared with controls, the pts had higher fasting triglyceride and very-low-density lipoprotein (VLDL) cholesterol levels (P<0.01); higher and more prolonged PPL curves at 2, 4, 6, and 8 hours (P<0.001) with a 78% higher mean exposure to postprandial triglycerides. Atenolol did not affect the PPL profile.

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### 1153-86 Dietary Intervention With Orange Juice Lowers Blood Pressure: Pilot Study

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BACKGROUND. Many investigators have sought to determine whether consumption of non-fat concentrate orange juice (OJ) which is rich in potassium, vitamin-C and anti-oxidants twice a day would improve endothelial function and reduce blood pressure in patients with coronary disease. Methods: We recruited 24 non-diabetic patients with angio graphic CAD (>50% stenosis), well controlled hypertension and lipids to test the effects of formulations of orange juice on endothelial function as assessed by blood pressure, brachial artery flow mediated dilation, and lipid levels. Patients were followed at two week intervals without medication change for a total of 14 weeks; 2-week vitamin-C fortified juvenile (JH), orange juice (OJ) alone, OJ fortified with vitamin-C and OJ fortified with vitamin-C and E, and a 2-week washout (W) period without test products. Flow mediated dilation and the average of four resting BP readings each at least 6 minutes apart were recorded every two weeks. Results: After adjustment for age, gender, and baseline TG, OJ resulted in reductions in systolic (median -6.9%, p<0.001) and diastolic BP (median -3.5%, p=0.07). In addition, OJ use tended to be associated with improvements in HDL: Blood glucose levels were comparable between OJ vs. Baseline (ns), all OJ vs. WO (p=0.058). Conclusion: Orange juice appears to positively influence vascular regulation, and may have implications for public health strategies towards blood pressure control.