This study was designed to determine how dietary fatty acids may be beneficial in hypertensive disorders associated with metabolic dysfunction. The anti-hypertensive effect of fish oil in this model appears independent of insulin levels and may result from increased expression of eNOS and/or decreased production of oxidative stress in vascular tissue.

Key Words: Sleep Apnea Syndrome, Obesity, Ambulatory Blood Pressure

P-501
DIETARY FISH OIL PREVENTS HYPERTENSION, OXIDATIVE STRESS AND SUPPRESSION OF ENDOTHELIAL NITRIC OXIDE SYNTHASE EXPRESSION IN FRUCTOSE-FED RATS
Michael D. Nibby, Karolin Abedi, Pirouz Eslam, Gustavo Hernandez, Victoria Smuklo, Morris E. Berger, Michael L. Tuck. Department of Medicine, SFVP, University of California, Los Angeles, Sepulveda, CA; Department of Medicine, VA Greater Los Angeles Healthcare System, Sepulveda, CA.

This study was designed to determine how dietary fish oil prevents the metabolic and vascular abnormalities that occur in the fructose-fed rat model of type 2 diabetes. Sprague-Dawley rats were fed either a normal rat diet (CONT), a 60% fructose diet (FFR), or a 60% fructose diet supplemented with 4.4% sh oil for eight weeks. Blood and tissue (heart, aorta) were harvested, RNA was extracted from the tissue samples and used for RT-PCR for eNOS and GAPDH mRNA expression. Plasma levels of insulin, glucose, hydrogen peroxide, 8-isoprostane, monocyte chemotactic protein-1 (MCP-1), triglycerides, and total cholesterol (T. Chol.) were determined. Plasma insulin, glucose, hydroxyl peroxide, 8-isoprostane, and monocyte chemotactic protein-1 (MCP-1) were higher, especially under 2hr postloading reactive hyperinsulinemia (33.33%) and 7.2122% cases respectively. Plasma C-peptide levels were higher, especially under 2hr postloading reactive hyperinsulinemia vs spontaneous (1.5–2.0 times; P < 0.05) and basal (3–4 times; P < 0.05) and control (5–10 times; P < 0.05). Spontaneous hyperinsulinemia is associated with monotonous plasma C-peptide level under control and higher plasma E-1 level vs patients with reactive hyperinsulinemia and control (P < 0.05). This indicates that prolonged blockade of the renin-angiotensin system by enalapril promotes BP control in less than 50% of cases. Antihypertensive effects are associated with different types of hyperinsulinemia and endothelial dysfunction. Monotonous plasma C-peptide level indicates insulin resistance better than glucose level under GTT in hypertensives without controlled BP and with spontaneous hyperinsulinemia.

Key Words: Insulin Resistance, Endoteline-1, Prolonged Treatment

P-502
INSULIN RESISTANCE AND INSULIN SECRETION UNDER PROLONGED ENALAPRIL TREATMENT
Mariya A. Orynchak, Evgen M. Neyko, Olga S. Chovganyuk, Vasyl E. Neyko. Department of Therapy, Medical Academy, Ivanovo-Frankivsk, Ukraine.

Lowering blood pressure (BP) helps manage arterial hypertension (AH). Controlling humoral parameters including glycemic metabolism is necessary in hypertensives with insulin resistance metabolic syndrome. This study evaluated the efficacy of 1.5–2 year treatment by enalapril in non-diabetic hypertensives, to analyze impact on BP, endothelial function and glucose-insulin profile. We studied 60 patients with AH II-III stage (23 men and 37 women aged 63.35 ± 9.91) treated by enalapril (10 mg/day) for 1.5–2 years and 10 healthy people (control). Both clinic and biochemistry glucose-tolerance test (GTT) and plasma level of endoteline-1 (E-1) and 24-hour ambulatory BP monitoring were performed. Results indicate positive antihypertensive effects of prolonged treatment with enalapril in only 27 (45%, group I). Stabilized average 24-hour mean systolic/diastolic BP below 135/85 mmHg and diurnal and nocturnal means of BP (P < 0.05) were observed. In the other 33 (55%, group II), mean BP above 140/90 mmHg (P < 0.05) and BMI > 30 kg/m² were observed. For group I the parameters of GTT and E-1 were not significantly changed vs control (P > 0.05). Plasma C-peptide levels were 4–5 times higher than control (P < 0.05). In group II, basal (8.95 ± 0.60 mcU) and 2hr postloading (9.20 ± 0.82 mcU) normoinsulinemia vs 12.16 ± 2.16 mcU in control (P < 0.05) was observed in 15 (45.4%). Basal normoinsulinemia (8.46 ± 1.30 mcU) and 2hr postloading hyperinsulinemia (reactive, 4.10 ± 0.57 mcU) vs 12.16 ± 2.16 mcU in control, and basal (26.90 ± 1.95 mcU) and 2hr postloading hyperinsulinemia (spontaneous, 43.37 ± 3.94 mcU) were observed (P < 0.05) in 11 (33.33%) and 7 (21.22%) cases respectively. Plasma C-peptide levels were higher, especially under 2hr postloading reactive hyperinsulinemia vs spontaneous (1.5–2.0 times; P < 0.05) and basal (3–4 times; P < 0.05) and control (5–10 times; P < 0.05). Spontaneous hyperinsulinemia is associated with monotonous plasma C-peptide level under control and higher plasma E-1 level vs patients with reactive hyperinsulinemia and control (P < 0.05). This indicates that prolonged blockade of the renin-angiotensin system by enalapril promotes BP control in less than 50% of cases. Antihypertensive effects are associated with different types of hyperinsulinemia and endothelial dysfunction. Monotonous plasma C-peptide level indicates insulin resistance better than glucose level under GTT in hypertensives without controlled BP and with spontaneous hyperinsulinemia.

Key Words: Insulin Resistance, Endoteline-1, Prolonged Treatment

P-503
HIGH PREVALENCE OF THE METABOLIC SYNDROME AND ITS COMPONENTS IN A VETERAN POPULATION
Deborah I Panebianco, Karen A Tisdel, Sonja K Fredrickson, Brandi C Bradley, Franklin J Zieve. Primary Care, Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, VA.

The Metabolic Syndrome (MetS) affects 20–25% of the US population, and its presence enhances the risk of coronary heart disease (CHD) for any given level of LDL. Data from the NHANES indicate that the prevalence of MetS rises with age, though it decreases slightly after the age of 70. At McGuire VA Medical Center Data > 1000 patients in one primary care group were identified. The occurrence of MetS differed