DUAL EFFECTS OF EPINEPHRINE ON BLOOD Glucose DURING HYPERINSULINEMIA IN BORDERLINE HYPERTENSIVE YOUNG MEN. A. Hector, E. Foxman, A. Mozz, I. Elbe and SE. Jelde. Department of Internal Medicine, Ulleval Hospital, University of Oslo, Norway.

The relationship between sympathetic nervous system (SNS) activity and insulin actions in man is of increasing interest. We investigated the effects of 30 min of epinephrine (Epi) (0.03 μg/kg/min, n = 14) or saline (0.9%, n = 6) infusion after 90 min of isoglycemic hyperinsulinemic glucose clamp in borderline hypertensive, but otherwise healthy young men. The changes in serum glucose was related to basal Epi, insulin and insulin disposal rate corrected for insulin (GDR/s). While serum glucose decreased (p = 0.016) during the first 5 min of Epi infusion, there was an increase in serum glucose during the next 25 min (p = 0.004) that even persisted 20 min after the Epi infusion had stopped. The initial decrease in serum glucose (Aglu 90-95 min) correlated negatively with GDR/s (r = 0.58, p = 0.05). The increase in glucose from 90-120 min (Aglu 90-120) correlated with basal insulin (r = 0.66, p = 0.014) and the maximal increase in glucose with the increase in plasma Epi (A Epi) (r = 0.78, p < 0.003). The glucose increase assessed as area under the curve (AUC) correlated positively with basal Epi (r = 0.57, p = 0.04), A Epi (r = 0.61, p = 0.04) and with basal insulin (r = 0.59, p = 0.05). Serum glucose remained essentially unchanged in the control subjects through the saline infusion. Thus, Epi seems to have dual effects on blood glucose during hyperinsulinemia and the net increase in serum glucose after 30 min Epi infusion is inversely related to GDR/s and positively to fasting insulin, basal Epi and ΔΔglu during infusion. We speculate whether some subjects are less prone to insulin resistance during stress and whether this is why they remain insulin sensitive over time.

Key Words: epinephrine, insulin, hyperinsulinemic clamp, insulin sensitivity

INSULIN RESISTANCE IN HYPERTENSIVE AFRO-VENEZUELAN SUBJECTS.

Insulin resistance (IR), which is considered an intermediate phenotype for arterial hypertension (AH), has been also associated with AH. This study was designed to determine the prevalence of IR in non-obese, non-diabetic hypertensive (HT) and normotensive (NT) men from a black population. The Barlovento Study. Sixteen voluntary patients agree to participate in the study. The subjects were divide in two groups according to their blood pressure (BP): HT (n = 10) and NT (n = 6). Basal insulin and glucose were taking during fasting. Euglycemic Clamp was performed in all patients. IR was considered when the total amount of glucose infused over time (M value) was < 7.5 mg/(kg.min). IR was found 50% of HT (M value 0.03 ± 0.01 mg/(kg.min) vs. NT 0.01 ± 0.00 mg/(kg.min)). IR was detected in 07 (46.66%) subjects: 02 (28.57%) NT vs. 05 (71.43%) HT. The distribution of the genotypes was NT 03 DD/03 ID/01 DD and HT 05 DD/02 ID/02 H. The distribution of the alleles was NT 0.47 ± 0.05 and HT 0.53 ± 0.03. In our sample we found 46.6% of IR, normotensive IR patients were descendents of hypertensive parents. No statistical difference in the distribution of the genotypes among both groups. The D allele is present in higher proportion in IR patients than in insulin sensible. Conclusion: IR represents a special problem in these Afro-Venezuelan communities, and the D allele could be a risk factor for insulin resistance in Afro-Venezuelan subjects.

Key Words: ACE polymorphism, Insulin resistance, blacks

INSULIN RESISTANCE AND ACE-I GENE POLYMORPHISM IN AFRO-VENEZUELAN HYPERTENSIVE PATIENTS.
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Some studies has suggested that activation of the renin-angiotensin system may lead to insulin resistance (IR). ACE-I gene Insertion/Deletion (I/DD) polymorphism had been implicated with IR, controversy in the results of these studies could be because the different procedures used to detect the presence of IR and distinct ethnic groups. The purpose of this study is to rule out the possible role of ACE gene I/D polymorphism in IR in Afro-Venezuelan subjects, using the Euglycemic insulin clamp (EIC). IR was considered when the total amount of glucose infused over time (M value) was < 7.5 mg/(kg.min). I/D polymorphism was determined by PCR. Fifteen men were taken: 05 Normotensive and 10 Hypertensive. IR was detected in 07 (46.66%) subjects: 02 (28.57%) NT vs. 05 (71.43%) HT. The distribution of the genotypes was NT 03 DD/03 ID/01 DD and HT 05 DD/02 ID/02 H. The distribution of the alleles was NT 0.52 ± 0.04 and HT 0.47 ± 0.03. In our sample we found 46.6% of IR, normotensive IR patients were descendents of hypertensive parents. No statistical difference in the distribution of the genotypes among both groups. The D allele is present in higher proportion in IR patients than in insulin sensible. Conclusion: IR represents a special problem in these Afro-Venezuelan communities, and the D allele could be a risk factor for insulin resistance in Afro-Venezuelan subjects.

Key Words: ACE polymorphism, Insulin resistance, blacks

INTERRELATION BETWEEN BLOOD PRESSURE AND GLUCOSE AND LIPID PARAMETERS IN MEN WITH ARTERIAL HYPERTENSION AND DIABETES TYPE-2 IN THE POST-MYOCARDIAL INFARCTION PERIOD. S.A. Matveeva*, Medical University, Ryazan, Russia.

The purpose of the present study was the evaluation of the interrelation between blood pressure (BP), glucose and the main parameters of lipid metabolism in men suffering arterial hypertension (AH), diabetes mellitus (DM) who had a myocardial infarction. An all-inclusive program included thoroughly clinical, laboratory and instrumental investigation. We studied their systolic BP, diastolic BP, mean BP, concentrations in their blood serum of: glucose, total lipids (Tl), total cholesterol (TC), high density lipoprotein-cholesterol (HDL-C), triglycerides (TG), very low and low density L-C (VLDL-C and LDL-C), C and TG coefficients. An expected correlation was present between BP (systolic, diastolic, mean) and glucose [r = 0.94, 0.80, 0.93 respectively, all P < 0.0001]. The analysis revealed a significant correlation (with P < 0.001) of glucose with all parameters of lipid metabolism. Thus, there is a functional interrelation between BP, glucose, lipid parameters in patients who had a myocardial infarction. Key Words: and are suffering from AH and DM. Blood pressure, glucose, lipid metabolism, arterial hypertension, diabetes type-2.