

P-230

EXAGGERATED BLOOD PRESSURE REACTION TO MENTAL STRESS AND TARGET ORGAN DAMAGE

Roberto A Ingaramo, Mirta Santana. Hypertension, CEHTA Cardiovascular, Trelew, Chubut, Argentina.

The exaggerated response of blood pressure (BP) to mental stress (MS) is associated with a greater cardiovascular risk profile and is predictive of future hypertension and atherosclerosis. Patients (P) who show an exaggerated BP reaction (HRP) to MS could have a greater presence of target organ damage (TOD). The objective was to evaluate if HRP showed greater cardiovascular risk factors and TOD as compared with normoreactors patients (NRP). We studied 67 patients, 48 never treated hypertensives (HT) and 19 normotensive (NT), 31 men, mean age 47 ± 1 . All the P underwent a 24hr ambulatory blood pressure monitoring (ABPM). Later, each performed a renal and carotid arteries duplex ultrasound, an echocardiogram and biochemical test. The BP reactions were analyzed using a computerized version of the Stroop color word conflict stress test and a mental arithmetic test. The BP was measured every 5 minutes during the stress period (total 15 min). Those who during the MS developed a systolic BP (SBP) of ≥ 25 mmHg, a diastolic BP (DBP) of ≥ 15 mmHg, or a mean BP increase of $\geq 20\%$ with respect to the basal values, were considered HRP. We matched the BP response with the left ventricular mass index (LVMI, $\geq 125/110$ g/m² men/women), carotida intima-media thickness (IMT, $\geq .8$ mm), the renal resistive index (RRI, ≥ 70) and the serum creatinine concentration (CR, $\geq 140/120$ mg/dL men/women). Thirty-five P were HRP (29 HT, 6 NT). The high responses were associated with greater prevalence of hypertension: percentage of HT in the HRP group 83% vs. 59% in the NRP group, $p = .031$. The mean values of the SBP and DBP during the test, were greater in the HRP (HT+NT), IC 95%: (162.9 \pm 2.78 vs. 142.9 \pm 2.78) and (103.7 \pm 1.9 vs. 94.3 \pm 1.7), $p < .05$, than in a NRP group. The behavior pattern of the SBP and DBP during the MS was similar in the HRP group, both in HT and NT P, but, they did not show any significant differences between HT and NRP and the NT and HRP (IC 95%, $p > .05$). There were no differences between HRP and NRP in the mean values of IMT: 7.03 \pm 1.25 vs. 6.90 \pm 1.61, $p = .802$; LVMI: 91.7 \pm 5.4 vs. 88.3 \pm 20.5, $p = .64$; RRI: .59 \pm 5.9 vs. .62 \pm 5.4, $p = .25$, neither in the mean values of BP obtained through the ABPM ($p > .05$). Only the CR was significantly greater in the HRP (92.7 \pm 15.5 vs. 81.7 \pm 15.2, $p = .016$). The exaggerated response of BP to mental stress will be associated with high blood pressure and to elevated plasmatic creatinine levels.

Key Words: Blood Pressure Reaction, Mental Stress, Target Organ Damage

P-231

EFFECT OF LONG-ACTING NIFEDIPINE ON BLOOD PRESSURE CONTROL AND CLINICAL OUTCOME IN PATIENTS WITH STABLE ANGINA: THE ACTION STUDY

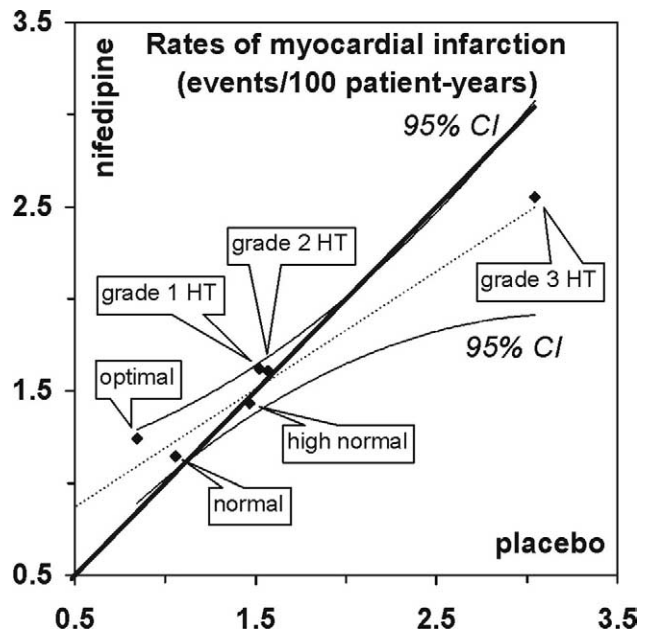
Jacobus Lubsen, Gilbert Wagener, Bridget-Anne Kirwan, Sophie de Brouwer, Philip A Poole-Wilson. Statistics, SOCAR Research SA, Nyon, Switzerland; Bayer HealthCare AG, Wuppertal, Germany; Cardiac Medicine, Imperial College, London, United Kingdom.

To examine the effects on blood pressure control and clinical outcome of adding long-acting nifedipine GITS to background medication in patients with stable angina, data from the double-blind placebo-controlled ACTION trial was stratified according to the WHO-ISH blood pressure (BP) classification at baseline.

Results: 10% of 7661 ACTION patients had an optimal, 19% a normal and 19% a high normal BP while 35% had grade 1, 14% grade 2 and 3% grade 3 hypertension (HT). Age (years) ranged from 60 for optimal BP to 67 for grade 3 HT ($p < 0.001$) while the presence of a history of

myocardial infarction ranged from 53% to 40% across the same categories of BP ($p < 0.001$). Similarly, the presence of a history of HT treated with drugs ranged from 20% for optimal BP to 82% for grade 3 HT ($p < 0.001$). The effect of nifedipine on mean follow-up blood pressure ranged from -5 / -3 mm Hg for optimal BP to -11 / -6 for grade 3 HT despite the more intensive treatment with other BP lowering drugs in patients with more severe HT assigned placebo. In patients with grade 1-3 HT, nifedipine significantly reduced within-patient BP variability.

The rate of the ACTION primary endpoint (death, MI, refractory angina, new overt heart failure (HF), debilitating stroke and peripheral revascularisation combined) and the rates of cardiac death, MI, new overt HF, debilitating stroke and any stroke or TIA were significantly associated with BP class at baseline. Weighted regression analysis of l'Abbé plots showed that the same applied to the effects of nifedipine on MI (figure), new overt HF, debilitating stroke and any stroke or TIA.



Conclusion: The salutary effects of the addition of nifedipine GITS to the basic regimen of patients with concurrent stable symptomatic coronary artery disease are blood pressure related and emphasise the need for blood pressure control.

Key Words: Calcium Channel Blockers, Clinical Outcome, Clinical Trials

P-232

INFLUENCE OF NON-PHARMACOLOGICAL TREATMENT (CONTEMPLATIVE MEDITATION AND BREATHING TECHNIQUE) ON STRESS INDUCED HYPERTENSION- A RANDOMIZED CONTROLLED STUDY

Paul Manikonda, Stefan Stoerk, Simone Toegel, Fritz Schardt, Christiane Angermann, Isaak Gruenberger, Ottmar Fuchs, Hermann Faller, Wolfram Voelker. Dep. of Medicine & Cardiology, University Hospital, Wuerzburg, Germany; Rehabilitative Cardiology, Deegenberg Klinik, Bad Kissingen, Germany; Benedictine Monastery, Wuerzburg, Germany; Dep. of Theology, Tuebingen University, Germany; Dep. of Psychotherapy, University of Wuerzburg, Germany.

Background: Stress induced hypertension is a very common disorder in the industrialized world. Medication alone is often inadequate to effectively control high blood pressure. Non-pharmacological antihypertensive interventions in arterial hypertension are weakly characterized. We investigated the effect of contemplative meditation combined with