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THE PRESIDENTS MESSAGE

Obesity is a common health problem in many Western Industrial countries. It is an important risk factor for hypertension, coronary and other cardiovascular disease. Prevalence of obesity and its correlation with other cardiovascular risk factors was not known in Egypt and many developing countries. During a cross sectional survey - the Egyptian National Hypertension Project - body weight, body mass index (BMI) and waist/hip (W/H) measurements were made on a random sample of 2292 individuals, 751 normotensives and 1541 hypertensives, age ranged 25-90 years. The survey was conducted in 21 sampling locations representing all Egyptian geographic regions and socioeconomic groups. Blood pressure was measured using a standardized protocol and blood samples were taken while fasting and 2 hours after 75 gm oral glucose samples were analyzed for sugar, cholesterol and triglycerides. Individuals were evaluated clinically for signs of heart failure, the presence of two or more of the following was consistent with clinical heart failure; cardiac dyspnea, ankle oedema, pulmonary congestion, raised jugular venous pressure and abnormal third heart sound. Obesity defined as BMI greater than 30 kg/m² was present in 26.6% of NT (13.9 in M, 35.6 % in F) and in 46.3% of hypertensives (26.4 in M 50.7% in F), W/H was 0.87 in NT (0.9 in M, 0.85 in F) and 0.90 in HT (0.93 in M, 0.88 in F). Systolic and diastolic BP correlated best and significantly (p<0.000 in all). Triglycerides correlated best with W/H (r=0.230, p<0.05) showed that obese individuals whether NT or HT have faster heart rate, more urban distribution, higher levels of F, PPBS, triglycerides and cholesterol levels. All levels were higher in HT than in NT. Diabetes mellitus, hypertriglyceridemia, hypercholesterolemia and clinical heart failure were more prevalent in the obese group, while cigarette smoking was more common in the non-obese individuals.

Conclusion:

1- Obesity is very prevalent in Egyptians, especially hypertensive women and more common in urban than rural areas.
2- DM, HTG, H Cholest. and HF are more common in obese than non-obese individuals.
3- BP correlates more with body fat distribution (W/H) than with BMI or body weight.

M Mohsen Ibrahim M.D.
Prof & Chairman, Department of Cardiovascular Medicine — Cairo University President of The Egyptian Hypertension Society.

SCIENTIFIC NEWS

A Three-dimensional helical CT angiography of renal transplant recipients presenting with hypertension, graft dysfunction or both, is now available and can provide valuable information that might be used to guide their further therapy.
For perinoperative hypertension & in hypertensive emergencies & crises a new parenteral antihypertensive; Fenoldopam, a dopamine receptor (DA 1 selective) agonist has recently been approved by the (FDA).

Pharmacoeconomics of therapy, is a hot issue in all cardiology meetings in trial to solve the challenge with balancing healthcare costs & quality of life. As &1—adrenergic hypothesis is now linked to the pathophysiology of pulmonary hypertensive, so the use of &1-agonists for appetite suppression and other disease should be avoided.

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MOLECULES IN FOCUS

ILLENNIUM

Omnia Nayel
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Despite five decades have lapsed in the progress of management of hypertension; the disease still commonly worldwide prevails. This necessitates an endless need for emergence of new therapeutic trends that could be preferentially tailored reasonably well to patients needs; whether to dosage requirement, metabolic profile neutrality, safety to concomitantly associated diseases or other cardiovascular risks etc. Furthermore, the patient’s compliance to a seemingly symptomless yet progressive disease adds a third dimensional depth that weighs to blood pressure control; whereby tolerance will mean compliance and compliance will mean efficacy of the antihypertensive that is meant to be addressed in this new millennium.

In such a domain the concept of striking with a drug on higher central controls initiating and maintaining high blood pressure is now being revived but with a newer insight. This renewed interest resides on a global trend to perceive the increase in pressure as a malfunction [loss of receptor sensitivity] of the adaptive emergency response that pertains cerebral and coronary supply sufficient enough to cope with body demands. The logic then would be to intervene with an antihypertensive that deals with such complex regulation in a rational, physiological mode rather than to fight against it.

The concept set to achieve this was through the use of a substance with an imidazoline-like structure as rilmenidine, that can bind selectively to I1 [imidazoline] receptors, located in the rostro-ventrolateral medulla of the brain stem, resulting in a decrease in the sympathetic outflow. However, it still remains debatable how rilmenidine provokes this genuine agonistic action but it has been hypothesized that it acts there as an inverse agonist.

Through this, rilmenidine will reinitalize such maladaptive responses, resetting the set point of baroreflex back, so as to normalize blood pressure. The consequence of such sympathetic inhibition will be, a reduction in peripheral vascular resistance, yet fortunately without interfering with adaptation to standing or sitting upright; particularly in elderly nor to exercise etc. The drug thus controls the sympathetic overdrive to the heart and reduces the left ventricular end-diastolic and end-systolic volumes, whereas the stroke volume, cardiac output, and pulmonary artery pressures remain largely unchanged. Moreover such decrease in sympathetic outflow, is apt to reduce the renin secretion.

Beyond this, by selective binding of rilmenidine to b receptors in the kidney, it can simultaneously inhibit H+/Na+ exchanger situated at the basolateral membrane of the proximal convoluted tubules which is responsible for Na+ absorption. Through this the drug can excrete sodium directly by decreasing water and sodium overload and indirectly by changing neural and hormonal influences on the kidney. In humans the drug was also reported to decrease glomerular filtration rate and filtration fraction.

From aforementioned, it is clear that rilmenidine encompasses two key organs involved in pressure regulation whereby it controls the immediate [nervous] and delayed [renal] setup in a comprehensive physiological way without neglecting the body’s abilities to adapt. When this was translated to long term antihypertensive monotherapy efficacious assessment, over a year, in an open study conducted on mild to moderate hypertensives or in a multicenter pharmacoepidemiological open trial involving 2072 general physicians and 18,257 hypertensive patients many of which were suffering from concomitant conditions [diabetes, dyslipidemia, heart failure, renal failure, dysrhythmias, etc] all results came up with a solid statement effective in long—term without any fading of effect.

And since selective b receptor antihypertensives do not bind to any other receptors in the therapeutic range specified, it is not surprising that their adverse effects on other bodily functions is down to minimal. This adds to their safety utility to be used in patients whatever their comorbid disease and/or age is. Also a rebound (withdrawal) phenomenon has not been reported for such b1-receptor stimulants. Thus striking on imidazoline receptors proved to be an innovative acceptable modality of an effective antihypertensive, that has come in to focus in this new millennium.

BIBLIOGRAPHY:

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Evidence of abnormal clinical measures of BP and normal ABPM. The latest upper limits of normality by ABPM recommended by the JNC VI are 135/85 mmHg.}

**Evidence**

The study comprised (1) a frequent sampling oral glucose tolerance test; (2) an inoglycemic hyperinsulinemic clamp study; (3) an analysis of body composition by dual-energy X-ray absorptionmetry.

Subjects or parents with diabetes and morbid obesity were excluded. Hypertension, and 30 age- and sex matched subjects whose parents were both normotensive, were studied. Subjects or parents of occurrence of secondary hypertension, or end-organ effects or complications in those classified as hypertensive.

**24 hour cycle**

One of the most specific characteristics of ABPM is the possibility of being able to discover modification or alteration of the 24 h cycle of BP. Non-dippers are defined as those who show a reduction in BP of less than 10/5 mmHg or 1000 between the day (06:00–22.00 h) and the night, or an elevation in BP. In contrast, extreme dippers are those in whom the BP reduction is greater than 20%.

**Cardiovascular system**

The data remain inconclusive with regard to the existence of a consistent relationship between the lack of a nocturnal dip in blood pressure and target organ damage. As regards prognosis, it seems that an inversion of the day–night cycle is of pejorative significance. Cerebrovascular system: Almost all studies have shown that non-dippers had a significantly higher frequency of stroke than dippers. In contrast, too great a fall in nocturnal BP may be responsible for more marked cerebral ischaemia.

**Renal system**

Non-dippers have a significantly elevated median urinary excretion of albumin. There is a significant correlation between the systolic BP and nocturnal diastolic BP, and urinary excretion of albumin. Various studies have confirmed the increased frequency of change in the 24 h cycle in hypertensive subjects at the stage of renal failure.

**Diabetes**

BP abnormalities should be considered as markers of an elevated risk in diabetic subjects but cannot be considered at present as predictive of the appearance of microalbuminuria or other abnormalities. ABPM is thus of interest in type I or type II diabetes both in the initial assessment and in the follow-up and adaptation of treatment. Pharmaco-therapeutic uses: The introduction of ABPM has truly changed the means and possibilities of approaching the study of the effects of anti-hypertensive medications, with new possibilities of analysis such as trough–peak ratio smoothness index, etc.

**J Hypertension 1999; 17(5): 585-595.**

**INSULIN RESISTANCE, EXERCISE CAPACITY AND BODY COMPOSITION IN SUBJECTS WITH TWO HYPERTENSIVE PARENTS**

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**Objective**

To study insulin resistance in subjects with strong genetic predisposition to essential hypertension compared with non-disposed subjects.

**Subject**

Thirty normotensive subjects aged 18–35 years whose parents both had essential hypertension, and 30 age- and sex matched subjects whose parents were both normotensive, were studied. Subjects or parents of occurrence of secondary hypertension, or end-organ effects or complications in those classified as hypertensive.

**Methods**

The study comprised (1) a frequent sampling oral glucose tolerance test; (2) an isoglycemic hyperinsulinemic clamp study; (3) an analysis of body composition by dual-energy X-ray absorptiometry.

**ABSTRACTS OF WORLD LITERATURE**

**CLINICAL VALUE OF AMBULATORY BLOOD PRESSURE MONITORING**

Mallion J7M, Baguet JP, Jean-Philippe Tremel SF, De Gaudemaris R

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Ambulatory blood pressure monitoring (ABPM) has now become an established clinical tool. It is appropriate to take stock and assess the situation of this technique. **Update on equipment:** Important improvements in equipment have occurred, with reductions in weight, in awkwardness and in noisiness of the machines, better acceptability and tolerance by the patients, and better reliability. Validation programs have been proposed and should be referred to. Limitations of the technique persist with intermittent recording in current practice. The reproducibility is limited in the short-term while recording over 24 h is acceptable. **Diagnosis and prognosis:** White-coat effect (WCE) is manifested as a transient elevation in blood pressure during the medical visit. The frequency of this phenomenon, the size of the effect, level of blood pressure (BP) or the situation of occurrence (general practitioner, specialist or nurse) have been interpreted differently. It does not seem that WCE predicts cardiovascular morbidity or mortality. White-coat hypertension (WCH) is diagnosed on the
The renoprotective effect of CCBs: Amlodipine and Nifedipine were compared with the ACE inhibitor (Captopril) and AT1 antagonist (Valsartan). Eighty patients with mild to moderate hypertension secondary to mild to moderate renal insufficiency were divided into four groups (20 for each). Each group received one drug to control blood pressure for ten weeks. Blood urea, serum creatinine, GFR, and total urine protein and B2 microglobulin were measured before and at the end of the study. Urea and creatinine decreased by Amlodipine (t=3.6 and 3.15). GFR increased by Amlodipine (t=2.83) and Valsartan (t=3.7). Amlodipine, Captopril and Valsartan were equally effective in reducing urea (F=15.53), creatinine (F=9.86), B2 microglobulin (F=8.54) and proteinuria. In conclusion, Amlodipine, a calcium channel blocker was found to have a renoprotective effect similar to Captopril and Valsartan.

ABSTRACTS OF LOCAL LITERATURE

APOTOPSIS MEDIATOR SOLUBLE FORMS IN PATIENTS WITH ESSENTIAL HYPERTENSION; COMPARATIVE EFFECTS OF CAPTOPRIL AND FOSINOPRIL

Enas Fafra, Morad Ahmed and Magdy El-Masry

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Fas receptors are cell-surface proteins and apoptosis-signaling molecules. Apoptosis may have an important role in the pathogenesis and progression of cardiovascular disease. Angiotensin-II stimulates apoptosis in cultured cardiomyocytes. ACE inhibitors are used for treatment of hypertension. The present study was designed to determine the relationship among the soluble Fas, hypertension and ACE inhibitors. We determined the serum sFas in 40 patients with essential hypertension before and after 6 weeks of randomly allocated treatment with Captopril (n=20) and Fosinopril (n=20). The control group consisted of 15 age-and sex-matched normotensive subjects. Baseline sFas levels were higher in hypertensive patients than in normotensive controls (6.72±0.32 versus 5.61±0.21 units/ml,p=0.05). There was a direct correlation between baseline sFas and systolic Bp in hypertensive patients (r= 0.365, P=0.05). The ACE inhibitors caused similar reductions in sFas levels and BP after the treatment period. Conclusion: These results indicated that circulating sFas levels are increased in essential hypertension and suggest the ability of ACE inhibitors to normalize sFas.

Presented in the 26th Annual Meeting of the Egyptian Society of Cardiology, Cairo, Egypt. February 1999.

RENOPROTECTIVE EFFECT OF CALCIUM CHANNEL BLOCKERS (AMLODIPINE AND NIFEDIPINE) COMPARISON WITH ACE INHIBITOR (CAPTOPRIL) AND ANGOTENSIN II RECEPTOR ANTAGONIST (VALSARTAN)

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The renoprotective effect of CCBs: Amlodipine and Nifedipine were compared with the ACE inhibitor (Captopril) and AT1 antagonist (Valsartan). Eighty patients with mild to moderate hypertension secondary to mild to moderate renal insufficiency were divided into four groups (20 for each). Each group received one drug to control blood pressure for ten weeks. Blood urea, serum creatinine, GFR, and total urine protein and B2 microglobulin were measured before and at the end of the study. Urea and creatinine decreased by Amlodipine (t=3.95 and 4.87), Captopril (t=0.87 and 2.95) and Valsartan (t=5.75 and 6.20), and increased by Nifedipine (t=4.87), Captopril (t=0.87 and 2.95) and Valsartan (t=5.75 and 6.20), and increased by Nifedipine before and at the end of the study. Urea and creatinine decreased by Amlodipine (t=3.6 and 3.15).
Occupational noise in particular was specified, where studies revealed that workers subjected to such stress constrain may recover a significant impairment in audiogram, a concomitant increase in HR, SBP, DBP and a decrease in galvanic skin stimulation, auditory & visual reaction times!!!

In such studies, initial pressure levels and duration of employment had an overall impact as evidenced by being more affecting borderline hypertensives. The age, body mass index, cumulative noise exposure, current use of blood pressure medications, and alcohol intake were significant predictors for systolic blood pressure while a threshold effect of cumulative noise exposure was a significant predictor of diastolic blood pressure.

On the contrary to occupational exposures, there is no support to the suggestion that there exists a simultaneous correlation between impulse noise exposure[as gun shots], noise-induced hearing loss, and self-reported elevated blood pressure.

In mothers subjected to repeated noise exposure and their preterm newborns were already suffering from chronic intrauterine stress, such as maternal smoking, maternal hypertension, and intrauterine growth retardation, the liability to a change in the maturation of the autonomic nervous system was raised and was thought to reflect a possibility of developing essential hypertension as they grow.

It was explained that extra-auditory effects of noise exposure is mediated by activation of the autonomic nervous system & hypothalamic-hypophyseal- adenal axis with a resultant increase in catecholamines from the adrenal medulla secondary to noise stress. In this respect a study has elucidated that with buzzing noise; a parallel increase in plasma catecholamine, corticosterone, Angiotensin II, glucose and lipids were found. While electro-physiologically, the acetylcholine and choline acetyltransferase in rostral ventrolateral medulla were increased markedly raising the assumption that stress-induced hypertension was closely related to the activation of a Colinergic system in rVLM.

Realizing the world wide prevalence of such a problem, the hazardous impacts of noise pollution, on cardiovascular morbidity and mortality deserves further attention in wide scale community controlled studies.

References:

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4- Arch Environ Health 1999 Mar-Apr 54(2) : 7 1-8.

BED-SIDE TIPS:

ASSIST IN PERTAINING
YOUR PATIENT’S COMPLIANCE.

--- You should advice patients to keep on taking the pills an never to cut it down by just feeling well. atient has to know that there is no way that he can tell— just by the way he feels, whether pressure is high or low.

--- Even if your patient has his own blood pressure measuring device, and his blood pressure seems controlled, he has to know that nobody can ever tell what would happen if medications are stopped. So clear to him that; ss but progressive disease with many morbidity outcomes, that one is fighting to halt. Insure that this is deeply posed in his mind.

--- Also stress that; ey need his help c'hey are to work as efficiently as they can to reduce pressure to normal. his contribution is worth a lot and could be achieved in part by his ability to change his lifestyle.

--- Help your patient to bypass the major obstacle hindering his compliance; that is forgetting to take medication. So; g by submitting such PILL — TAKING TIPS

For remembering taking the pills;

---suggest:
- Put the pills where they are linked to a part of your routine daily scenarios; as keeping them by the toothbrush, razor, where one eats or watches TV.
- Write a changeable weekly reminder aside them otherwise one may stop noticing them. This can be stuck on the refrigerator, kitchen ..doors - or on the bedroom, bathroom mirrors
- Set a watch to keep at pill-taking time.
- Ask the help of relatives or friends to remind taking the medications.
- Sort the drugs in a an be bought or constructed, if more than one type of medication are to be taken.

For not running out of pills;

---suggest:
- Set up a system for renewal of the prescription by marking the date on the calendar or ask for the pharmacist’s cooperation by sending reminder cards or phone rings if his system implies...

For remembering taking pills while traveling;

---suggest:
- Put reminders with the baggage; fasten it on the suitcase or travel kit.
- Travel with a spare prescription, in case pills are forgotten.


CARDIOLOGY PEARLS

1- Diagnosis: Type I aortic dissection producing aortic regurgitation.
2- Aortic dissection should be suspected if the patient has chest, back, or abdominal pain that reaches maximum intensity immediately. Hypertension despite a shocky appearance, coupled with a normal ECG should further increase suspicion.
3- Aortic dissection should be suspected in any patient with chest pain who develops aortic insufficiency.
4- Marfan syndrome is likely if the dissection occurs under the age 40.
5- Drug therapy with nitroprusside and a beta blocker is the initial treatment in almost all cases of dissection; surgery should be performed if the ascending aorta is involved.

EHS NEWS:

The EHS has held its Summer Meeting of the Society in Helnan Palestine Hotel on June 24-25the,1999 in Alexandria. The program covered many hot issues evolving these days within the etiopathogenic arena and has also witnessed scientific debates on updated guidelines. The EHS is organizing its fourth scientific meeting of the society on the 2628th
of January 2000 at Marriot Hotel, Cairo. The Chairman; Prof Dr. Mokhtar Gomaa has issued the 1st announcement. He has focused on how pathophysiology and management of hypertension is escalating in the direction of molecular biology. He whole heartily advice the necessity of focusing on such new concepts as we step in this new millennium. This will be aside the regular topics that basically should be discussed in such an important event. Awards will be presented by the society for young investigators. Members of the EHS are collaborating with Dr Abdulrahim Jaffer the Undersecretary — Ministry of Health of The U.A.E and the president of the 3rd Conference of the Pan — Arab Hypertension Society in finalizing the arrangements of such important event, due to be held in Abu Dhabi, 5-9 February, 2000.

CALENDAR

LOCAL MEETINGS

4 Annual International & Pan Main Conference Hall Alexandria Prof Dr. Mohamed Sobhy Tel / Fax (203) 4203288
The fourth Scientific Meeting of the EHS Marriot Hotel, Cairo Egypt January 28-29th, 2000 Prof Dr. Mokhtar Gomma Tel (202) 3026871 -Fax (202) 3026871 E-mail : mogomaa@idscl.gov.eg

INTERNATIONAL MEETINGS

4th World Congress of Echocardiography & vascular Ultrasound Mena-House Oberoi, Cairo Egypt January 19-2 1, 2000. Prof Dr. Osama Abdel Aziz Tel: (202) 3926650, Telefax: (202) 3602800 / 3958000