Topic 26 – Hypertension, remodeling, arterial stiffness – A

April 02nd, Thursday 2015

0067

The effect of the fast of Ramadan on ambulatory blood pressure in treated hypertensives

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Introduction: Fasting of Ramadan is a religious obligation that is practiced by the Muslim population in the world. However, there is a lack of scientific literature regarding the effects on cardiovascular disorders such as hypertension.

Objective: This study was conducted to assess the impact of Ramadan fasting on blood pressure in treated hypertensive patients.

Materials and Methods: This prospective observational trial was conducted on 18 patients treated for hypertension, who were determined to end the fast of Ramadan. All subjects were on antihypertensive therapy. Measurements of blood pressure was performed by Holter blood pressure before and after the month of Ramadan.

Results: The mean age of subjects was 57.61±12.64 years; with a female predominance. There was a significant decrease in average diastolic 24-h ambulatory blood pressure, as well as average diastolic awake ambulatory blood pressure after Ramadan (70.72±9.24mmHg vs 65.06±8.23mmHg, P=0.01 et 73.72 ± 10.10mmHg vs 70.06 ± 9.43mmHg, P=0.01). Average systolic 24-h ambulatory blood pressure, as well as average awake systolic and average asleep systolic and diastolic ambulatory blood pressure was similar before and after Ramadan (125.50 ± 11.62mmHg vs 122.94 ± 10.09mmHg, P=0.08; 128.44 ± 12.19mmHg vs 126.11 ± 10.80mmHg, P=0.06; 120.67±13.20mmHg vs 119.83 ± 13.76mmHg, P=0.73; 65.72 ± 8.84mmHg vs 65.72 ± 8.84mmHg, P=0.81).

Conclusion: We conclude that, according to our results, hypertensive patients can continue their treatment as the traditional fasting during Ramadan can be performed safely.

0124

Ambulatory blood pressure monitoring in the prognostic evaluation of diabetes

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Introduction: Hypertension is frequently associated with diabetes mellitus and is responsible for an increase in the cardiovascular risk in diabetic patients. Thus, early diagnosis and good control are of paramount importance.

Patients and Methods: This is a prospective study on 5 months of known and treated patients diabetics, collected in non-invasive investigation unit of the cardiology department of the CHU Ibn Rochd of Casablanca for a ABPM, whether in the diagnosis of hypertension, either as part of the monitoring of therapeutic efficacy of known and treated hypertensive patients.

Results: The study was conducted in 75 patients (34 men and 41 women; sex ratio: 0.77) with a mean age of 69.0 ± 3.1 years (42-77 ans).

Of a total of 36 patients with hypertension: ABPM revealed hypertension well controlled in 52.8% of cases, uncontrolled hypertension in 38.9% of which 71.4% was masked hypertension. The discrepancy was found dams36.1% of cases.

Subjects with poorly controlled hypertension were significantly older (p=0.01) and more likely to be male (p = 0.002).

Of a total of 39 patients unknown hypertension, ABPM was diagnosed with hypertension in 46.2% of which 50% was masked hypertension. 53.8% were normotensive. The discrepancy between the clinic BP measurement and ABPM was of 38.5%.

Night dysregulation of BP was statistically different between the both of groups (not hypertensive and hypertensive well controlled on one hand and hypertension, uncontrolled other) respectively (53.8% and 46.2%, p = 0.04; OR:2.6, CI: 1.07 to 6.8). The dippers patients have less micro-macroangiopathy with a p <0.05.

Conclusion: Hypertension of our patients is often poorly controlled. Through this work, the ABPM proves interesting in diabetics in the diagnostic, therapeutic adaptation and assessment of prognosis.

0223

Dual effect of resveratrol on flow-mediated outward hypertrophic remodeling in ovariectomized rat mesenteric resistance arteries

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Resistance arteries control local blood flow. Chronic increases in blood flow in RA occur in growth, pregnancy, exercising as well as to compensate ischemia and induce outward hypertrophic remodeling associated with improved endothelium dilation. As estrogens have a key role in flow-mediated remodeling, we hypothesized that resveratrol, suggested to act as phytoestrogen, may improve flow-mediated remodeling in ovariectomized rats.

Blood flow was increased in vivo in one mesenteric resistance artery without other changes in pressure or circulating factors in three-month old ovariectomized female rats treated with resveratrol (5 or 37.5mg/kg per day in osmotic minipumps: RESV5 or RESV37.5) or solvent (DMSO). After 2 weeks arterial structure and function were measured in vitro.

Arterial diameter increased in high flow (HF) compared to normal flow (NF) arteries in ovariectomized rats treated with RESV5 or RESV37.5, not in control rats. Hypertrophy in HF arteries occurred in the 3 groups but was greater in RESV37.5-treated rats so that wall / lumen ratio was elevated in this group. ERK1/2 activation, involved in flow-mediated hypertrophy was greater in RESV37.5-treated rats than in RESV5 – and DMSO-treated rats. RESV5, not RESV37.5, improved L-NAME sensitive arterial relaxation. eNOS expression level was equivalent in HF and NF vessels in all groups animals. Markers of oxidative stress (p67phox, GP91phox) were greater in arteries of RESV37.5-treated rats than in RESV5 – and solvent-treated rats. They were also higher in HF arteries in RESV37.5-treated rats.

Thus, although resveratrol improved flow-mediated outward hypertrophic remodeling in OVX rats, the high dose induced oxidative stress and hypertrophy.

0242

Serum lipid profile in hypertensive patients in the University Hospital of Casablanca

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Introduction: Hypertension and dyslipidaemia are important components of metabolic syndrome and both are known to complicate each other. The multiplicative effect of these risk factors increases the risk of cardiovascular disease. The aim of this study was to determine the prevalence of dyslipidemia in hypertensive patients.

Methods: This prospective study was done in the University hospital IBN ROCHD in Casablanca, comparing 90 hypertensive patients and 90 normotensive patients controls matched for age and sex, for a period of one year from January 2013 to January 2014. In both groups were measured the total blood levels of cholesterol (TC), high density lipoprotein (HDL), low density lipoprotein (LDL) and triglycerides (TG). The exclusion criteria were previous history of diabetes, cigarette smoking, regular alcohol use, nephropathy and hyperuricemia.