

Results: The prevalence of overweight (BMI 25-29 kg/m²) and obesity (BMI ≥ 30 kg/m²) were 36.0% and 29.4% in men and 38.1% and 30.4% in women. Mean SCORE risk was 2.9% for males and 0.8% for females. 70.3% of men and 49.7% of women were at moderate CV risk by SCORE (1-4%) whereas 27.3% and 1.2%, respectively, were at high risk (≥ 5%). Mean ASCVD risk was 4.8% in men and 1.6% in women. 18.9% of men and 1.6% of women had elevated ASCVD risk (≥ 7.5%). In males WHt-R showed the largest AUC (0.630±0.038) relative to risk SCORE ≥ 5% and WC showed the largest AUC (0.653±0.038) relative to ASCVD risk ≥ 7.5%. In females the body fat percentage was found to be the best obesity marker for predicting risk SCORE ≥ 1% (AUC 0.660±0.03). The optimal cutoff WHt-R, WC and body fat values for predicting CV risk were 0.59, 94 cm and 37%, respectively.

Conclusions: Overweight and obesity were common among urban employed population of Mongolia. We received statistical evidence supports the superiority of abdominal obesity markers in men for detecting high CV risk by SCORE (waist-to-height ratio ≥ 0.59) and 2013 ACC/AHA algorithms (waist circumference ≥ 94 cm) whereas in women the body fat ≥ 37% may be better indicator for elevated CV risk than anthropometrical data.

PP.03.25 RILMENIDINE TREATMENT IN POSTMENOPAUSAL HYPERTENSIVE WOMEN WITH METABOLIC SYNDROME

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Objective: In postmenopausal women hypertension remains an important problem and a serious therapeutic challenge because more than half women of this age suffer from arterial hypertension. The metabolic syndrome is an important cluster of coronary heart disease risk factors with common insulin resistance and sympathetic activation. Both hypertension and metabolic syndrome had an increased prevalence in menopause. The purpose of our study was to evaluate the efficacy of rilmenidine on blood pressure, left ventricular hypertrophy regression and diastolic dysfunction in postmenopausal hypertensive women.

Design and method: We performed a prospective study, lasting 3 months, in which 32 never-treated postmenopausal hypertensive grade 1 and 2 women with metabolic syndrome, age between 46 and 72 years old, received once a day rilmenidine 1 mg. The echocardiography and Doppler echocardiography were performed to all of them at baseline and after 3 months of therapy. The echographic parameters assessed were: left ventricular mass index (LVMI), end diastolic diameter (EDD), interventricular septum (IVS), posterior wall thickness (PWT), early diastolic mitral inflow velocity/atrial induced velocity ratio (E/A), isovolumetric relaxation time (IVRT), and deceleration time (DT).

Results: Blood pressure was significantly reduced by treatment, both systolic (157.7±3.2 vs 129.5±1.5 mmHg, p<0.01) and diastolic (101±2.4 vs 83.2±1.2 mmHg, p<0.001). LVH regression was observed in 27 women receiving rilmenidine (83.7%), with a LVMI decrease from 139.5±15 to 114.1±13.6 g/m² (p<0.001). Left ventricle diastolic function was improved in 28 women (86.8%). E/A ratio increased from 0.99±0.03 to 1.18±0.03 (p<0.05). IVRT decreased from 138.2±3 to 130±2.5 ms (p<0.05), and DT from 186.1±3.7 to 170.3±3.4 ms (p<0.05).

Conclusions: Rilmenidine show high antihypertensive and cardio protective efficacy in postmenopausal women with metabolic syndrome, reducing left ventricular hypertrophy and remodeling, and improving diastolic relaxation.

PP.03.26 CACHECTIN AND APOPROTEIN B IN HYPERTENSIVE PATIENTS WITH ABDOMINAL OBESITY, PRE-DIABETES AND TYPE 2 DIABETES MELLITUS

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Objective: To investigate the relationship between indicators carbohydrate and lipids metabolism, apoprotein B (apo B) and cachectin (TNF-α) level in hypertensive patients (HTP) with obesity, pre-diabetes and type 2 diabetes mellitus (T2DM).

Design and method: 222 HTP with obesity, pre-diabetes and T2DM on average age 57.35±11.68 matched in age and sex and 21 healthy persons were examined. All participants underwent clinical examination, assessment of carbohydrate and lipids metabolism. Plasma concentrations of apo B, TNF-α were determined. The IDF criteria (2005) were used to diagnose abdominal obesity (AO). Carbohydrate metabolism was evaluated according to IDF (2012), ADA (2010). The patients were divided into 5 groups depending on presence of AO and glucose metabolic profile.

Results: Means plasma apo B [g/l] and TNF-α [pg/l] were increased in T2DM HTP (n=27) [2.09±1.05 and 26.80±30.98] compared to pre-diabetes HTP (n=40) [1.69±0.79 and 20.61±19.60], obese HTP (n=104) [1.32±0.37 and 14.21±16.73], HTP (n=51) [1.20±0.37 and 12.66±11.54] and control [1.16±0.27

and 13.06±5.35]. AO was diagnosed in 88% of T2DM HTP and 65% of pre-diabetes HTP. Insulin resistance (IR) was identified in 92% of T2DM HTP, 85% of pre-diabetes HTP, 49% of obese HTP and 37% of HTP. In T2DM HTP apo B was correlated with insulin [R=0.62, p<0.009], fasting glucose [R=0.52, p<0.03], HOMA-IR [R=0.66, p<0.004], and TNF-α was correlated with HbA1c [R=0.52, p<0.006] and apo B [R=0.73, p<0.001]. In pre-diabetes HTP apo B was correlated with insulin [R=0.51, p<0.002], HbA1c [R=0.42, p<0.01], HOMA-IR [R=0.49, p<0.003]. In obese HTP apo B was correlated with HOMA-IR [R=0.27, p<0.003], total cholesterol [R=0.26, p<0.004], low-density lipoprotein cholesterol [R=0.28, p<0.002], and TNF-α was correlated with degree of hypertension [R=0.40, p<0.004], HbA1c [R=0.36, p<0.008], apo B [R=0.28, p<0.03]. In HTP apo B was correlated with insulin [R=0.51, p<0.002], HOMA-IR [R=0.57, p<0.0005], and TNF-α was correlated with very low-density lipoprotein cholesterol [R=0.39, p<0.008], triglycerides [R=0.41, p<0.005].

Conclusions: Our data showed that increased cachectin promotes the formation of T2DM in HTP, along with haemodynamic parameters, AO, and IR. Cardio-metabolic risk is increased in HTP depends on presence AO, pre-diabetes and T2DM, as evidenced by the relationship between the basic and additional cardiometabolic markers.

PP.03.27 DIFFERENTIAL ASSOCIATION OF GLUCOSE METABOLIC INDICES WITH ARTERIAL STIFFNESS AND MICROALBUMINURIA IN HYPERTENSIVE PATIENTS WITH METABOLIC SYNDROME

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Objective: Arterial stiffness and microalbuminuria are markers of target organ damage and carry significant cardiovascular risk. Disorders of glucose metabolism such as metabolic syndrome and diabetes mellitus II have been associated with both arterial stiffness and microalbuminuria but whether it is glucose per se or other indices of glucose metabolism that have the most powerful effect on target organ damage is unknown. The aim of the present study is to investigate the independent relationship of blood glucose, glycated haemoglobin and insulin resistance with arterial stiffness and microalbuminuria in hypertensive patients with metabolic syndrome.

Design and method: We studied 524 never treated hypertensive patients with metabolic syndrome defined by Adult Treatment Panel III criteria. Arterial stiffness was assessed by measuring carotid-femoral pulse wave velocity (PWV) using the Complior device. Microalbumin excretion was measured after 24h urine collection and albumin to creatinine ratio (ACR) was estimated. All patients underwent full laboratory assays, including insulin measurement and estimation of HOMA (index of insulin resistance), glycated haemoglobin (HbA1c) and high sensitivity C-reactive protein (hsCRP).

Results: In the whole population the mean values of PWV and ACR were 8.8 m/s and 36.8 mg/g, respectively. In univariate analysis, both PWV and ACR were significantly associated with all indices of glucose metabolism (p<0.001 for the association of PWV and ACR with glucose, HbA1c and HOMA). When all glycaemic indices were entered in the same model of multivariate analysis, after adjustment for age, gender, body mass index, smoking, mean arterial pressure and hsCRP, PWV was independently related to HOMA (beta=0.09, p=0.03) whereas ACR was independently related to HbA1c (beta=0.58, p=0.001) and glucose levels (beta=0.34, p=0.03).

Conclusions: In hypertensive patients with metabolic syndrome, among indices of glucose metabolism, insulin resistance is the most powerful determinant of arterial stiffness whereas glycated haemoglobin has the strongest association with microalbuminuria. The present findings suggest possible pathophysiological mechanisms underlying the relationship between abnormal glucose metabolism and target organ damage and emphasize the need for measurement of insulin levels and glycated hemoglobin in all patients with hypertension and metabolic syndrome in order to improve their risk stratification.

PP.03.28 MARKERS OF INFLAMMATION AND LIPID PROFILE IN THE PATHOGENESIS OF VASCULAR WALL REMODELING IN HYPERTENSIVE PATIENTS WITH ABDOMINAL OBESITY

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Objective: To study correlations between structural parameters of vessel wall, inflammatory and lipid biochemical parameters in patients with arterial hypertension (AH) and abdominal obesity (AO).