[gw22-e0323] **METABOLIC SYNDROME AND MULTIPLE ORGAN DAMAGE IN ESSENTIAL HYPERTENSION**

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Objective To investigate the influence of the metabolic syndrome (MS) on essential hypertention-related target organ damage (TOD), and assess the value of a systematic search for cardiac and extra-cardiac TOD in MS.

Methods A total of 1487 untreated and treated essential hypertensives were considered for this analysis. All patients underwent extensive investigation for left ventricular hypertrophy (LVH, cardiac TOD), carotid plaques and/or intima-media thickening (IMT, vascular TOD) and microalbuminuria (MAU) and/or increased serum creatinine (renal TOD). Subjects were classified as: positive for none (group 0), one (group 1), two (group 2) or three markers (group 3) of TOD.

Results In whole population, the most common phenotype of TOD was alterations in LV structure and geometry (LVH or LV concentric remodelling: 63.3%), followed by carotid thickening (carotid plaque and/or carotid thickening: 51.1%), MAU (32.9%) and increased serum creatinine (0.7%). MS prevalence rates progressively rose across the groups stratified according to the TOD score. The distribution of subjects with and without the MS across the groups was 13.2% vs 20.0% (group 0), 30.9% vs 32.6% (group 1), 39.2% vs 36.1% (group 2) and 16.7% vs 11.3% (group 3), respectively. Thus, subjects having two or three markers of TOD were 55.9% among those with MS and 47.4% (p=0.000) among those without MS. Age, waist, systolic blood pressure (SBP), duration of hypertension, triglycerides, serum creatinine, prevalence of type 2 diabetes all showed a progressive increase from group 0 to group 3. There was a significant difference in duration of hypertention, waist, fasting blood glucose, high density lipoprotein cholestorol, triglycerides, total cholesterol, low density lipoprotein cholesterol (LDL-C), body mass index and prevalence of type 2 diabetes. The prevalence of concentric LVH showed a stepwise increase from group 1 to group 3, and was higher in all MS groups than in their counterparts. In whole population, left ventricular mass index (LVMI) and IMT showed significant and positive correlation with clinic SBP (LVMI: r=0.125, p=0.000; IMT: r=0.078, p=0.003). Significant correlations were found between TOD variables and age, creatinine, uric acid, LDL-C and duration of hypertention. Significant associations were also observed between LVMI and IMT (r=0.146, p=0.000) or UACR (urinary albumin-creatinine ratio, r=0.075, p=0.004).

Conclusion MS may substantially enhance the risk of multiple TOD and concentric LVH, independently of blood pressure and age. This finding calls for a systematic search for cardiac and extracardiac TOD in all hypertensives with MS.