## [4B.04] CORRELATION OF TARGET ORGAN DAMAGE WITH CENTRAL BLOOD PRESSURE MEASUREMENTS IN DIABETIC AND PRE-DIABETIC PATIENTS

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**Objective:** To determine the possible associations of central (c) blood pressure measurements with subclinical target organ damage in diabetic and pre-diabetic patients.
**Design and Methods:** Cross-sectional study in subjects with type 2 DM or Metabolic Syndrome (MS). Laboratory analyses, EKG and central BP by radial artery applanation tonometry (Sphygmocor®) were recorded. Microalbuminuria (MA) was defined as urinary albumin excretion (UAE) >22mg/g (M) or >31mg/g (F). Left ventricular hypertrophy (LVH) was diagnosed if Sokolow-Lyon index >38 mm, Cornell index >2440 mm*ms or Cornell voltage >28 (M) or >20 (F) mm. Impaired renal function was defined by plasma creatinine >1.2mg/dL (F) or >1.3 mg/dL (M) and/or estimated glomerular filtration rate <60 mL/min/1.73m2. Arterial stiffness was defined by pulse wave velocity (PWV) >12m/s.
**Results:** 506 patients (diabetics: 75%; age: 64 ± 10y; 38% F) were recruited from Spanish Hypertension Units. Other risk factors: hypertension: 91%; dyslipidemia: 72%; smokers: 14%. Prevalence of: MA 24.7%; LVH 14.5%; impaired renal function 36.7%; arterial stiffness 23.8%. Central blood pressure was significantly higher (age- and sex-adjusted) in patients with MA with respect to those without (130 ± 2.2 vs 123.8 ± 1.2; p = 0.013 for cSBP) and (51.5 ± 1.7 vs 47.1 ± 0.9; p = 0.025 for cPP) and in patients with arterial stiffness with respect to those without (139.2 ± 2 vs 125.6 ± 1.1; p < 0.001 for cSBP), (83.7 ± 1.3 vs 79.7 ± 0.7; p = 0.006 for cDBP), (55.4 ± 1.5 vs 46.3 ± 0.8; p < 0.001 for cPP), and (17.6 ± 0.8 vs 15.1 ± 0.5; p = 0.010 for augmentation P), whereas it was significantly lower in those with impaired renal function (124.1 ± 1.7 vs 129.7 ± 1.2; p = 0.015 for cSBP) and (77.4 ± 1.1 vs 81.6 ± 0.8; p = 0.003 for cDBP). No differences were observed in patients with or without EKG-LVH. cPP correlated with Sokolow-Lyon index (r = 0.393; p = 0.043), UAE (r = 0.451; p = 0.033), and PWV (r = 0.471; p < 0.001); cSBP correlated with UAE (r = 0.295; p = 0.003), Cornell index (r = 0.147; p = 0.032) and PWV (r = 0.350; p < 0.001) and cDBP correlated with UAE (r = 0.235; p = 0.021), Cornell index (r = 0.324; p = 0.017), serum creatinine (r = 0.325; p = 0.002) and PWV (r = 0.393; p < 0.001).
**Logistic regression analyses showed independent associations of:** cSBP (for a 10 mmHg increase) with MA [1.26 (1.03-1.54); p = 0.027] and PWV: [1.95 (1.57–2.43); p < 0.001]; cPP (for a 10 mmHg increase) with LVH [0.25 (0.07–0.91); p = 0.036] and augmentation pressure (for a 5 mmHg increase) with impaired renal function [0.78 (0.69–0.87); p < 0.001].
**Conclusion:** In diabetic and pre-diabetic subjects, central-SBP and central-PP are independently associated with subclinical target organ damage.

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