P2.12: ARTERIAL STIFFNESS MEASURED WITH POPMèTRE® IN PRIMARY ANTI-PHOSPHOLIPIDS SYNDROME

M. Hallab, G. Leftheriotis, C. Belizna

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Methods: 135 Patients were enrolled in a longitudinal, prospective study of arterial stiffness and cardiovascular risk in a cohort suffering from chronic kidney disease stages 2 to 4. Office measurements of bSBP and aSBP were assessed by a validated oscillometric device. Prognostic factors of survival were identified by use of Cox proportional hazards regression models.

Results: After a mean follow up duration of 42 months (range: 30 to 50 months) 13 patients died. In univariate Cox analysis, bSBP did not significantly predict mortality, only aSBP assessed using measured mean and diastolic pressure calibration was significantly associated with mortality (HR = 1.027, p = 0.008). This remained significant in multivariate analysis after adjustment for age, sex and anthropometric measures. More important, adding bSBP to the multivariate model (HR = 0.91, p = 0.003), lead to a significantly increased prognostic and statistical power of aortic systolic pressure (HR = 1.097, p = 0.001) and indicated that differences between bSBP and aSBP are of potential interest.

Conclusion: Within our cohort, only aSBP assessed with measured mean and diastolic pressure predicted mortality and provided highly significant prognostic value.

P2.10 ASSESSMENT OF CAROTID PULSE WAVE VELOCITY BY ULTRASOUND: A WAVE INTENSITY ANALYSIS-BASED APPROACH

N. Lasco a, B. Renno a, F. Stea a,b, V. Gemignani a, E. Bianchini a, L. Ghidioni a, F. Faita a

aNational Council of Research, Pisa, Italy
bUniversity of Pisa, Pisa, Italy

Local carotid pulse wave velocity (cPWV) is a parameter increasingly investigated. The diameter-velocity loop (Ind-V loop) could represent a valid approach for cPWV evaluation, since it requires the use of the ultrasound (US) equipment only. Aim of this study was to develop a fully-automatic system for assessing cPWV which is based on the Ind-V loop and the use of the Wave Intensity Analysis (WIA).

US scans were obtained from 27 healthy subjects (44 ± 17.8 years, 44.4% males, BMI 25.5 ± 3.9 kg/m2). Diameter and flow velocity instantaneous values were achieved from B-mode and PW-Doppler images using edge-detection and contour-tracking techniques. Single-beat mean diameter and velocity were calculated, time-aligned using an automatic technique and plotted together providing the Ind-V loop. The WIA, as introduced by Parker in 2009, was performed: the two local maxima (W1 and W2) were identified by use of Cox proportional hazards regression models. Repeatability expressed as the S.D./mean of 3 measurements was very good: 5.4%.

The proposed approach, based on US images only and the WIA, allows an accurate estimation of cPWV which is obtained in PWV assessment (Complior©/C226) measures the finger to toe PWV, blood pressure, ABPI and the aPL antibody titers were measured in 20 AP patients and 20 controls with a distal deep vein thrombosis history.

The two groups were comparable for brachial blood pressure and ABPI (1.15 ± 0.04 vs 1.12 ± 0.03, ns), as well as the age. The AP group had a greater IMT (0.59 ± 0.02 vs 0.53 ± 0.01 mm, p < 0.004), AS index (10.3 ± 0.6 versus 8.1 ± 0.6 / m / s, p < 0.02) and pOpme`tre ftPWV (13.2 ± 0.9 vs 10.5 ± 0.6 m/s; p < 0.004) was increased in the APS group. Age correlated with systolic blood pressure (r = 0.11, p = 0.002), pOpme`tre ftPWV (r = 0.23, p = 0.16; p = 0.0003), not with the BAPI (r = 0.03; p = 0.06). No correlation was found between with age and aPL.

Conclusion: In the AP patients, arterial stiffness measured by pOpme`tre is increased compared to controls and correlated with AS indices and IMT.