ASSOCIATION BETWEEN RETINAL MICROCIRCULATION AND AORTIC STIFFNESS IN HYPERTENSIVE PATIENTS

ACC Moderated Poster Contributions
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Session Title: Stiff Hearts and Stiff Vessels: The Hypertensive Patient
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Authors: Vasiliki Katsi, Hippokratio Hospital, Athens, Greece

**Background:** The fundoscopic examination of hypertensive patients, an established hypertension-related target organ damage, tends to be underutilized in clinical practice. We sought to investigate the relationship between retinal alterations and aortic stiffness, an independent predictor of cardiovascular morbidity and mortality.

**Methods:** Our population consisted of 197 consecutive essential hypertensive patients (age 60±13 years, 115 females) without overt cardiovascular disease. All subjects underwent fundoscopy examination and were distributed to four groups according to Scheie’s grading system. Aortic stiffness was evaluated by carotid-femoral pulse wave velocity with a validated device (Complior).

**Results:** The four groups (Scheie’s grades 0-3: including 24, 75, 74, 24 patients respectively) did not differ with regard to age, gender and their metabolic profile. Patients with higher Scheie’s category had higher values of pulse wave velocity (8.2±1.5, 8.9±1.7, 9.3±1.8, 9.8±2.1 m/sec respectively, p=0.001). Multivariable regression analysis showed that age, fundus classification and systolic arterial pressure were independent determinants of pulse wave velocity.

**Conclusions:** Hypertensive subjects exhibit a progressive stiffening of the aorta in parallel with the progression of retinal alterations according to Scheie’s scale. Further studies are needed to clarify involved pathophysiological mechanisms and explore possible causal relationships.