

[PP.35.173] RELATIONSHIP BETWEEN RETINAL VESSEL DIAMETERS AND ARTERIAL STIFFNESS IN HYPERTENSIVE PATIENTS

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Objective: To evaluate the relationship between retinal vessel diameters from digitized fundus photographs and arterial stiffness in hypertensive patients.

Methods: A cross-sectional study was conducted in a primary care setting, with the inclusion of 353 hypertensive patients aged 30–80 years. Office and ambulatory blood pressure were determined. Arterial stiffness was assessed according to carotid intima media thickness(IMT), pulse wave velocity(PWV), ambulatory arterial stiffness index(AASI) and ankle/arm index. Retinal vessel diameters was evaluate with semiautomatic software from digitized fundus photographs and calculated the arteriole/venule ratio(AVR).

Results: Mean aged 55.13(SD:11.85) years, men 217 (61.5%). We found negative correlation between AVR with systolic ($r = -0.164$, $p = 0.002$) and diastolic ($r = -0.117$, $p = 0.030$) 24 hour blood pressure and office blood pressure ($r = -0.135$, $p = 0.012$; $r = -0.117$, $p = 0.029$). We found positive correlation between AASI and IMT with retinal arteriolar diameters ($r = 0.118$, $p = 0.28$; $r = 0.109$, $p = 0.043$) and retinal venular diameters($r = 0.111$, $p = 0.039$; $r = 0.181$, $p = 0.001$) respectively and negative correlation between ankle/arm index and arteriolar diameters ($r = 0.187$, $p < 0.001$) and venular diameters ($r = 0.198$, $p < 0.001$). At last with PWV only has correlation with retinal venular diameters($r = 0.150$, $p = 0.005$). In multiple liner regression(stepwise method) with the AVR as dependent variable, the variables remain in equation was 24 hour systolic blood pressure, with retinal arteriolar diameters, the ankle/arm index and 24 hour systolic blood pressure, and with venular diameters, ankle/arm index and IMT.

Conclusions: The correlation between the arteriole/venule ratio and retinal vessel diameters with arterial stiffness markers was poor. 24-hour blood pressure, ankle/arm index and IMT are the only parameters that remain as predictors of the retinal vessels diameters.

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