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RELATIONSHIP BETWEEN CENTRAL BLOOD PRESSURES AND CAROTID INTIMA-MEDIA THICKNESS IN PREHYPERTENSIVE PARTICIPANTS

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Objective To investigate the relationship between central blood pressures and carotid intima-media thickness in prehypertensive participants.

Methods According to the blood pressure level, 346 individuals were divided into two groups. Namely, normotensive controls 151 cases; prehypertensive participants 195 cases. Central blood pressures were carried out non-invasively using SphygmoCor (AtCor Medical, Australia) device, and carotid intima-media thickness (IMT) was measured by ultrasonography.

Results Central systolic blood pressure (CSP), central diastolic blood pressure (CDP), central pulse pressure (CPP), central mean systolic blood pressure (CMSP), central mean diastolic blood pressure (CMDP), central end systolic blood pressure (CESP), carotid intima-media thickness (IMT) were higher in prehypertensives than that in normotensives ($p < 0.01$, respectively). Augmentation pressure (AUG) and augmentation index (AI) were higher in prehypertensives than that in normotensives ($p < 0.05$, respectively). Multiple linear regression showed that CPP, CSP were risk factors for IMT ($\beta = 0.344, 0.296$, all $p < 0.05$).

Conclusion Central aortic pressures and carotid intima-media thickness in prehypertension participants have already increased, CSP and CPP were the most important influence factors of carotid intima-media thickness.